

# ABOUT GARDEN CITY SEEDS

Greetings old customers and newcomers! I'll spare you the millennial references.

We are pleased that the demand for our varieties is growing and the increased support allows us the ability to carry new things. The biggest change you will probably notice is the large increase in the number of organic varieties. Our custom seed production has always been organic, but it now seems that supply and demand have finally reached the level where we can offer a broader range of organic varieties than before. The most exciting part of this development is that there are now more seed growers producing organic seed and the benefits are manifold.

We are also carrying a larger number of medicinal herb species. The seed we carry is produced in Montana by organic herb growers. We are focusing on species that grow well enough in Montana to produce seed, as those are the ones most adapted to our climate.

We had a good year on our farm where we do varietal trials, produce stock seed, and carry on our small breeding projects. We have a new farm site with good soil, plentiful irrigation and some very nice views. As we have stated before, we only carry varieties that do well here in the Bitterroot

Valley. This usually translates into superior performance in a variety of difficult continental northern climates, as we have a short growing season (often less than 120 days), cool temperatures in the late spring and most nights, and usually hot dry days through the balance of the growing season.

Some of the highlights of our varietal trials are: Flashy Troutback, a wild and wonderful new lettuce from a plant breeding friend in Oregon: Snowcone Cauliflower, a very good open-pollinated variety that likes our sub-optimal weather; Vita Gold Hybrid Tomato, a high carotenoid variety that makes sense to grow in Montana; Nutri-red Carrot, a very good addition to our line of colorful and healthful carrots; and Magnum Green Bean, a high yielding and very flavorful new variety. Altogether we have added over 30 new varieties and over 30 new organic selections of varieties we already carry.

You can also now order from us on line at <a href="https://www.gardencityseeds.com">www.gardencityseeds.com</a> for those in tune with the new millennium (oops, I promised I wouldn't.)

Karen and John



# Asparagus Asparagus officinalis

Asparagus produces a good yield of spears in three years from seed and in one year from roots. It grows wild in many areas of western Montana, especially on well-drained banks near streams and irrigation ditches. Cultivated asparagus benefits greatly from applications of compost. It should be mulched to control weeds; avoid hoeing around roots, which can damage growing tips.

65 roots per 100 feet, 25 feet per person.

PKT 3 gms 130 seeds; ½ oz 600 seeds.

<u>CULTURE</u>: Soak seeds for 48 hours at 85-90° F before

sowing. Place seed 3-5 inches apart in rows 2 feet apart. Transplant roots the following spring to permanent beds. Select for larger male roots, leave some female roots. Females have seed berries; males don't. Plant roots 1 foot deep and 18 inches apart in rows 4 feet apart; 12 inches apart in deep beds. Mulch heavily.

SEASON: Cool season. Sow seeds or plant roots in early spring. MIN. SOIL TEMP: 50° F.

SOIL: Well-drained, slightly basic, up to pH 7.6.

COMPANION PLANT: Tomatoes, parsley and basil.

PESTS: RUST, FUSARIUM ROT, GRAY MOLD: Control by planting on well drained ground away from moist hollows. ASPARAGUS BEETLE, SPOTTED ASPARAGUS BEETLE: Control through fall cultivation, dusting with rock phosphate, attracting beneficial birds or spraying with pyrethrum. SEED SAVING: Dioecious (has distinct male and female plants). Harvest berries from female plants in the fall; dry then crush and clean seeds with water; dry and store cool and dry.

#### MARY WASHINGTON, Perennial

Old favorite variety that yields scrumptious spears in cold climates. Early, long straight spears with tight tips. 60 day cutting period. Resistant to some rusts and blight.

MARY WASHINGTON, Seeds #1 PKT \$1.75; ½ oz \$5.75; ¼ lb \$37.20

#### JERSEY KNIGHT F., Roots

Phenomenal yields of excellent quality asparagus are possible with this disease resistant Jersey male variety. 3-4 times higher yield is possible for two reasons. First, JERSEY KNIGHT has almost all male plants which put all of their energy into shoot production. Second, JERSEY KNIGHT is very tolerant to rust and Cercospera Leaf Spot. Its dark green spears have attractive purple bracts and the shoot tips hold tighter than other varieties, allowing for an extended harvest period. Our crowns are grown by Jersey Asparagus Farms, the top name in Jersey male asparagus. CLS

**#1500** 10 roots (1 lb) \$11.00; 25 roots (3 lbs) \$16,50; 50 roots (6 lbs) \$28.00

Order asparagus roots on the Root and Tuber Order Form.
Orders will be shipped starting April 1.
Orders received after May 15 may be refunded.
The roots don't store well out of the ground and should be planted as soon as you receive them.

#### **VENTURE: 48-50 days**

Exceptionally early and productive green bean. Flavor sweetens early and stays tender longer. For fresh use and freezing. Grows well in cool weather. This BLUE LAKE strain grows longer - to 6½ inches. White seed. BCMV. #12 PKT \$1.80; ½ lb \$3.50; 1 lb \$5.80; 5 lbs \$21.00



#### PROVIDER: 50-55 days

This high yielding, reliable and early market variety is well adapted to northern conditions. Pods retain fresh, tender quality long after harvest. PROVIDER'S purple seeds germinate better in cooler soils than many other commercial types in its class. This makes it a real winner for market farmers and home gardeners alike. Round 5 inch pods are meaty. BCMV, PMV, RUST, DM.

#10 PKT \$1.20; 1/2 lb \$3.00; 1 lb \$4.50; 5 lbs \$14.00

#### BUSH BLUE LAKE 274: 55-60 days

Excellent freezing and canning variety. Oval pods 5½ inches long; crisp and good flavored. Remains stringless and tender over a long period. BCMV; NY 15.

#11 PKT \$1.30; ½ lb \$3.80; 1 lb \$5.00; 5 lbs \$14.40 #14 ORGANIC PKT \$1.90; ½ LB \$6.20

#### MAGNUM:

50-52 days
Our highest yielding bean, this early maturing bean has flattened pods, excellent green color, good flavor and raves from our local market farmers. BCMV.

#17 PKT \$1.50; ½ lb \$4.50; 1 lb \$7.50; 5 lbs \$32.00



#### **ROYALTY PURPLE POD: 55-60 days**

Afavorite for young gardeners. Variety has a built-in blanching indicator for freezing as they turn green when they are blanched! Mexican bean beetles avoid this handsome variety. #15 PKT \$1.60; ½ lb \$3.50; 1 lb \$6.00

# Bush Green Beans

Phaseolus vulgaris

Adequate available phosphorus and potassium is more important to beans than an abundance of nitrogen. They are a warm-weather plant and are not frost tolerant. We do not treat our beans with a fungicide, so don't plant in very wet or cold soil. Clear plastic can help raise soil temparature early in the spring. REEMAY (see page 67) will keep plants warm at night. As a legume, a bean's capacity to fix nitrogen is enhanced by a bacterial inoculant which greatly increases plant vigor. The varieties we carry can be harvested continuously yet tend toward two main flowerings per season. Plant every two weeks until the first week in July for continuous supply. Beans are susceptible to bacterial blights and molds so plow under the bean straw early or compost it to hasten the destruction of disease organisms. ½ pound per 100 feet.

PKT 1½ oz 100-120 seeds sows 20 feet; 800-1700 seeds/lb.

<u>CULTURE</u>: Plant in double rows 1 foot apart, 2 feet between each double row. Make furrows about 1 inch deep. Thin plants to 2-4 inches apart when they are 2-3 inches tall. Plant 6 inches apart in deep beds. Cover seed with fine soil, and tamp down firmly. <u>SEASON</u>: Warm season. Direct seed 1-8 weeks after frost. <u>MIN. SOIL TEMP</u>: 60° F.

GERMINATION: 5-8 days. <u>SOIL</u>: Light acid to neutral pH above 6.0. <u>COMPANION PLANT</u>: Corn, potatoes, carrots, cucumbers, cauliflower, cabbage, summer savory. NOT onions, garlic, gladiolas. <u>PESTS</u>: BACTERIAL BLIGHTS, MOLDS, and BEAN COMMON MOSAIC VIRUS: Avoid tilling when ground is wet, buy resistant seed, use crop rotation, plow in bean straw. <u>SEED SAVING</u>: A mostly self-pollinated annual. Pull up plants when pods turn brown or tan and beans rattle in the pods. Hang to dry in airy place; thresh when dry; store in cool, dry place.

# NITROGEN-FIXING INOCULANT

These inoculants contain beneficial bacterial cultures which live in the roots of legumes, forming nodules, adding nitrogen to the soil. Improves plant vigor, increases yields.

1110 GARDEN COMBO PACKAGE \$3.50 (% lb)
For peas, beans, favas (fabas), lentils. Treats 8 lbs of seed.

1111 LARGE COMBO PACKAGE \$5.50 (1/4 lb)
Same as above. Treats 50-60 lbs of seed.

# Bush Wax Beans

Phaseolus vulgaris

Yellow wax beans add color to green bean dishes, marinated summer salads and pickled "dilly beans".

CULTURE: Same as Bush Green Beans PKT 1½ oz.

#### DRAGON'S TONGUE WAX: 62-65 days

Flat-podded French type bean with 8 inch long pods. Yellow, striped with purple. Excellent, sweet and juicy flavor. High yield. Stringless pods keep their quality for a long period in the field after maturity.

#21 PKT \$2.30; 1/2 lb \$6.50; 1 lb \$12.00

For healthy beans, see high phosphorus and potassium fertilizers on page 71-72.

#### ROCDOR: 52-54 days

Our customers' favorite for a superior yellow wax bean. Buttery flavored bean stays slender longer than most others.

Productive 6 inch beans for fresh use or freezing. Uniformity and quality make ROCDOR a sure contender at the County Fair. Black seed germinates well in cold soil. BCMV, ANTH.

#23 PKT \$3.00; ½ lb \$7.00; 1 lb \$13.50; 5 lbs \$42.80



#### INDIAN WOMAN YELLOW: 75 days





#44 ORGANIC PKT \$2.90; 1/2 lb \$7.20; 1 lb \$11.50; 5 lbs \$45.00

#### **NORWEGIAN BROWN: 85 days**

Golden brown beans with a delicious nutty flavor that makes a fine baked bean or an excellent addition to soups. Introduced from Norway around 1900. Earlier than Swedish Brown.

#41 ORGANIC PKT \$2.85; ½ lb \$9.30; 1 lb \$16.60; 5 lbs \$45.90

#### JACOB'S CATTLE: 85 days

Striking white bean speckled with red. Very reliable early yielder, popular in short season areas. Rich meaty flavor makes this heirloom our top choice for homemade baked beans. JACOB'S CATTLE also cooks in about half the time of most dry beans, making it an excellent choice for winter soups.

#33 PKT \$1.80; 1/2 lb \$4.20; 1 lb \$6.00; 5 lbs \$22.00; 50 lbs @ \$3.70

#### MIDNIGHT BLACK TURTLE SOUP: 98 days

A black bean that makes it in Montana. Tall erect plants bearing small jet black beans. Great for soups and refried beans. Introduced by Cornell University.

#42 PKT \$2.20; 1/2 lb \$8.00; 1 lb \$14.70; 5 lbs \$56.00

# Bush Dry Beans

Phaseolus vulgaris

CULTURE: Same as Bush Green Beans PKT 1½ oz.

#### KABULI BLACK, Garbonzos: 95 days

Very hardy and vigorous variety, originating in Kabul, Afghanistan and released by Washington State University. Completely black garbanzo; two beans per pod. These frost tolerant beans have no problem reaching maturity in the Bitterroot Valley. Make your own falafel and hummus! Also known as Chick Peas.

#50 ORGANIC PKT \$2.40; 1/2 lb \$8.60; 1 lb \$10.50

#### NODAK PINTO: 85 days

Pintos are the most popular bean for Mexican dishes because of their flavor and texture. NODAK is a week or two earlier than most other pintos on the market. An especially high yielding variety, NODAK is split resistant. Introduced by the North Dakota Experiment Station, USDA-ARS, and the Washington Experiment Station.

#### #31 ORGANIC

PKT \$2.70; ½ lb \$8.35; 1 lb \$14.00; 5 lbs \$45.90



#### **KENTUCKY WONDER: 68-72 days**

Delicious, 7 inch long, round pods that have a good stringless texture. Pick continuously to increase yield. A longtime favorite. Join happy gardeners everywhere, try these!

#61 PKT \$1.60; 1/4 lb \$2.90; 1 lb \$6.00; 5 lbs \$17.50

#60 ORGANIC PKT \$2.70: 1/4 lb \$6.00

#### BLUE LAKE FM-1K:

#### 65-68 days

Very popular stringless bean; use fresh, freeze or can. Pods 6 inches long, round-oval shaped, fleshy and delicious. Also good as a shell bean. BCMV.

**#62** PKT \$1.40; ¼ lb \$3.20; 1 lb \$6.00; 5 lbs \$22.10

#63 ORGANIC PKT \$2.70; 1/4 lb \$7.60



#### NORTHEASTER, Quintus: 56 days

Our earliest pole bean has a sweet delicious flavor and huge yet tender, stringless pods. 8 inch long, 3/4 inch wide pods maintain their high quality on the vine. Extra vigorous vine growth. Can be grown in a greenhouse under relatively low light conditions.

#66 ORGANIC PKT \$3.10; 1/4 lb \$4.50; 1 lb \$12.50

#### **SCARLET EMPEROR RUNNER BEAN: 65-75 days**

Phaseolus coccineus

Best selling runner bean quickly covers fences and trellises.



Large scarlet flowers attract hummingbirds. A favorite of young gardeners. 12 inch long, semi-flattened green beans are good cooked.

#64 PKT 2 oz \$2.00; ½ lb \$6.00

# Pole Snap Beans

Phaseolus vulgaris

Pole beans are heavy yielders, and because the vines grow to 8 feet, they require special support. Pole beans are more productive per square foot than bush beans. 1/4-1/2 lb per 100 feet, 10 feet per person.

PKT 1 oz 75 seeds approx.; 800-1700 seeds/lb.

<u>CULTURE</u>: Set rough poles 1 foot deep and at least 2 feet apart. Try using three poles to make a tipi instead of planting in rows. Remove a shovelfull of dirt by each pole, and fill with compost and soil. Plant 5-6 seeds 1 inch deep at the base of each pole. Tamp soil down firmly. Thin to the 3-4 best plants per hill.

SEASON: Warm season. Direct seed 1-8 weeks after last frost. GERMINATION: 5-8 days. MIN. SOIL TEMP: 60° F.

SOIL: Light acid to neutral pH 5.5-6.5.

COMPANION PLANTS: Corn, summer savory.
NOT onions, beets, kohlrabi, sunflowers.

PESTS: RUST, BACTERIAL BLIGHT, WHITE MOLD: Avoid tilling when soil is wet, remove or plow under bean straw. Rotate crops. FLEA BEETLE: Control with wood ash, pyrethrum, lime OR beneficial nematodes. CUCUMBER BEETLE: Avoid by mulching. SEED SAVING: Mostly self-pollinated annual. Pull up or clip plants when pods turn brown or tan and beans rattle in pod. Hang to dry in airy place; shell beans when very dry; store in ventilated container, keep cool & dry.

Changes School Land Clark Collins To Art Life She Art about

#### WINDSOR: 75 days Very dependable variety with long pods; 4-5 large seeds per pod. Plants are 3½ feet tall.

#**71** PKT \$1.95; ½ lb \$7.00; 1 lb \$12.80; 5 lbs \$33.00



# Broad/Fava Beans

Vicia faba

Favas are ideal for cool climates. Plant 6 weeks earlier than other beans. Best cooked fresh by steaming or in soup. To store, blanch green then freeze. Can be dried.

PKT 1½ ounces 30 seeds; 250-300 seeds/lb.

<u>CULTURE</u>: Plant 1 inch deep, 4-6 inches apart in rows 18-36 inches apart. Deep bed spacing 12 inches.

GERMINATION: 4-14 days.

SEASON: Cool season, direct seed 4-6 weeks before last spring frost. MIN. SOIL TEMP: 40°F.

<u>SOIL</u>: Light acid to neutral pH 5.5-6.5. <u>COMPANION PLANT</u>: Most vegetables. NOT onions, garlic, gladiolas. <u>PESTS</u>: APHIDS: (spread virus causing leaf spotting especially during hot weather) control with beneficial insects and by removing host plants (e.g. plantain) or through use of soap or lime sprays.

SEED SAVING: Same as for pole beans.

# Beets Beta vulgaris

Beets require full sun in order to develop properly. Horizons or rings in beets result from fluctuating temperature and moisture conditions. Most diseases afflicting beets are the result of nutrient deficiencies, particularly of boron which causes interior browning. Boron and other trace-mineral deficiencies can be cured with kelp products (see page 69). Clip greens for a nutritious salad when roots are at least half size. Delaying harvest until after frost increases sugar content and improves storage qualities. Trim tops and root cellar in high humidity above freezing.

1 oz per 100 feet, 20 feet per person.

PKT 5 gms 200 seeds, sows 20 feet; 17,000-40,000 seeds/lb.

CULTURE: Sow seed ½ inch deep, 1 inch apart, in rows 10 inches apart. Thin plants to 3 inches apart when greens are big enough to eat, but roots haven't formed. Deep bed spacing is 3 inches apart. SEASON: Spring: direct seed 2-4 weeks before last frost. Fall: 6-8 weeks before first frost. GERMINATION: 4-10 days. MIN. SOIL TEMP: 40° F.

SOIL: Rich sandy loam, pH 6.0-6.8.

COMPANION PLANT: Onions, kohlrabi. NOT pole beans. PESTS: LEAF SPOT, CERCOSPORA, RHIZOCTONIA ROOT ROT: Control through clean tillage, rotation and adequate fertility. APHIDS: Control with beneficial insects or soap sprays and by removing host plants (e.g. plantain). LEAFMINER: Control with REEMAY row cover (see pg 67)or bioneem. We have seen some resistance in BULLS BLOOD beet. SEED SAVING: Cross-pollinated (beets and chard may cross if flowered together); biennial (winter-over first year); cut stalks when seed clusters are ripe (dry and brown), hang to dry, strip seeds from stalk, separate seeds from chaff.

Market Farm Tips

Sow at intervals of 2 weeks beginning a month before the last frost and ending in mid-July. Plant in loose, moderately rich soil. Never use fresh manure. Thinning is very important for proper root development. Cultivate shallow 1 or 2 times. Harvest the largest beets by pulling up by the stem, keeping the greens intact. Bunch and wash immediately. In fall after frost, remove the withered greens, wash beets and store in bags at 35° F. for winter sale.

## Large reddish purple leaves are thick, glossy and an excellent color for salads. Can be regularly harvested for greens if one doesn't get

SPECIALTY BEETS

**BULLS BLOOD: 60 days** 

carried away. We observed that in a year where leaf miners destroyed the beet greens of regular leaved beets, they left Bull's Blood alone. Flattened globe shaped roots with good quality and flavor.

**#97 ORGANIC PKT \$2.90**; 1/2 oz \$4.50; 1/4 lb \$19.50



Regular beet leaf (left) compared to BULLS BLOOD

#### CYLINDRA: 60 days

Cylindrically shaped beets, 6-8 inches long and 2-3 inches in diameter. Excellent for slicing. Smooth skin, dark red color, no horizons.

#96 PKT \$1.60; 1/2 oz \$3.00; 1/4 lb \$10.00; 1 lb \$30.00

#### CHIOGGIA: 55 days

unusual, catching Italian variety with red and white alternating rings within an eye-catching scarlet skin. Green tops are delicious raw cooked. Several market farmers report enthusiastic sales of this delicious and unique heet.

#94 PKT \$1.60; 1/2 oz \$2.90; 1/4 lb \$16.50; 1 lb \$55.60



### **GOLDEN BEET: 55 days**

Golden round roots won't bleed and make your salads red. Roots are sweet and smooth; the greens are vigorous and flavorful.

#92 PKT \$2.50; 1/2 oz \$4.10; 1/4 lb \$16.60

#90 ORGANIC PKT \$3.25; 1/2 oz \$5.50; 1/4 lb \$20.00





RED ACE F,: 53 days

The standard hybrid beet for market farmers because of its uniformity and reliability. Related to BIG RED, which it replaces. Very uniform, nicely shaped roots size up early with substantial sweetness and tenderness. Large disease resistant tops are impressive at market. DM, CLS.

#95 PKT 200 seeds \$2.00; 1000 seeds \$4.50; 5000 seeds \$18.00; 10,000 seeds \$30.00



RED ACE F,

**DETROIT DARK RED: 59 days** 

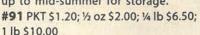
Fine main season variety with rich, dark-red interiors; roots have 3 inch diameter. DM.

#93 PKT \$1.20; 1/2 oz \$2.20; 1/4 lb \$3.40; 1 lb \$7.50

# Beets

**EARLY WONDER TALL TOP: 48 days** 

Sixteen inch tops tinged with maroon make excellent greens. Beet matures early and bunches well for home and market. Can be sown in early spring up to mid-summer for storage.





#99 ORGANIC PKT \$1.80; 1/2 oz \$4.00

LONG SEASON/ Lutz or Winter Keeper: 80 days

This large variously-shaped, red storage variety delivers some of the best eating of incredibly sweet and tender flesh for months after the gardening season ends. Huge white-veined, chard-like leaves are a delicious bonus. The roots may also be used like mangels as a highly nutritious fodder crop for livestock. Our favorite storage beet.

#98 PKT \$2.00; 1/2 oz \$4.00; 1/4 lb \$16.00

### THE SAFE SEED PLEDGE

Agriculture and seeds provide the basis upon which our lives depend. We must protect this foundation as a safe and genetically stable source for future generations. For the benefit of all farmers, gardeners and consumers who want an alternative, we pledge that we do not knowingly buy or sell genetically engineered seeds or plants. The mechanical transfer of genetic material outside of natural reproductive methods and between genera, families, or kingdoms, poses great biological risks as well as economic, political, and cultural threats. We feel that genetically engineered varieties have been insufficiently tested prior to public release. More research and testing is necessary to further assess the potential risks of genetically engineered seeds. Further, we wish to support agricultural progress that leads to healthier soils, genetically diverse agriculture ecosystems and ultimately people and communities.

Garden City Seeds' Particular Philosophy on Genetic Engineering

We agreed to print the Safe Seed Pledge in our catalog because we agree with the overall intent. The document was developed by the Council on Responsible Genetics (CRG) who solicited the opinion of many concerned seed companies in the drafting of this pledge. As with the collective creation of any document, the results may not represent exactly how any one of the participants would address this issue. Luckily we have the opportunity here to tell you exactly what we think because this is our catalog.

We would not have used the phrase "genetically stable" and we challenge anyone to explain what that means. The development of new varieties, first by farmers and later by plant breeders, depends on a type of genetic instability (i.e. genetic variation) to evolve the plants that are the foundation of our civilization. We applaud the efforts of organizations like CRG, however, to help educate the public. We at Garden City Seeds want to support such efforts and at the same time voice our particular perspective.

We believe that most genetic engineering is unnecessary and is the wrong road to take in terms of crop improvements, environmental protection, and human health. And, although we are not certain that any particular GE product is detrimental to human health, we believe more testing needs to be done. The important point is that the move to genetic engineering is driven by the concentration of power in the food industry. This concentration turns our farms into factories and our farmers into employees of multi-national agri-business and chemical corporations.

The infatuation with short-term profit has warped plant development in this country by focusing on the short-term marketability of single gene traits. This fixation has diverted important time and resources away from population plant breeding which can genetically reinvigorate crop gene pools and develop varieties resistant to disease and insects. The single gene ideology has lead directly to genetic engineering to develop the "magic bullet" new variety whose disease and insect resistance will eventually fail. For those interested in what can be done to realistically and practically address this issue, we recommend you read Return to Resistance by Raoul Robinson (see Page 79).

At Garden City Seeds we have had a long history in educating the public on seed issues. For years we supported the heirloom seed movement, and we still believe that there are important older cultivars of great value to the gardener and small grower. We no longer believe, however, that repositories of older varieties and accessions of "endangered" varieties at plant introduction stations are as important as we once thought. The notion is that this material may contain important genes for future plant breeding. The transfer of a gene to an established variety through pedigree plant breeding or genetic engineering is part of the short term mentality that has gotten us into the present predicament. Real progress in plant improvement is being accomplished using composite crosses of present day varieties which are subjected to disease and climatic selection pressure in the agro-ecosystem in which they will be used. Establishing gene pools relevant to the agro-ecosystem in which they are grown is the path to genetic diversity, and to varieties that don't need pesticides and don't need to be genetically engineered.

# Seed Saving Basics

# Why Save Seeds?

Nothing fosters a better overall understanding of the plant species from which we gain our sustenance than growing the crop through to the completion of its life cycle and harvesting its seed. For many gardeners seed saving is an empowering process enabling them to rub elbows with their ancestors by passing on a heritage of valuable genetic resources that may otherwise be lost.

**Pollination Biology** 

In order to successfully save seeds, one needs understanding of the type of pollination system that naturally occurs when the particular crop you intend to maintain is allowed to reproduce. Pollination systems for plants are normally divided into two categories: self-pollinated types and cross-pollinated types.

Self-pollinated Crops

These crops all have perfect flowers (both male and female parts in the same flower), and they will usually pollinate themselves before opening, thus insuring their "self" pollination. Because of this, different varieties of the same crop species require minimal isolation distances when increasing seed. While self-pollinated species do not usually intermate, some of these crops will outcross (cross-pollinate) 1-2% per generation. Therefore, it is always a good idea to plant a tall-growing crop barrier between varieties of the species that you are reproducing, minimizing the chances of either physically mixing seed or having an errant outcross occur. To insure purity in cases where two varieties are very similar in appearance, separate by at least 150 feet and use a barrier.

Cross-pollinated Crops

Cross-pollinated crops are naturally crossed by either insect-borne or wind-borne pollen. Therefore, isolation distances between different varieties of the same crop are crucial to insure varietal purity. Insect pollinated species should be separated by at least ¼ mile with some type of physical barrier (forest, hills, etc.); otherwise a minimum of ½ mile is necessary between varieties. Different varieties of wind-pollinated crops require a minimum of 1 mile between varieties for purity. Open-pollination refers to the situation whereby a number of plants of a cross-pollinated species are allowed to freely intermate. The term should not be used in reference to self-pollinated species which do not "openly" pollinate (cross) under normal conditions.

**Population Maintenance** 

Another basic concept to understand is that when you choose to maintain a specific variety of a particular crop, what you are really maintaining is a "population". Geneticists define population as "a community of sexually interbreeding individuals or potentially interbreeding individuals." A population of individuals comprises a gene pool. To maintain the genetic diversity inherent in a population, it is important to grow an adequate number of individuals when reproducing a variety. Only healthy vigorous plants should be saved for seed.

#### Population Size:

### The Overlooked Key to Success

Information concerning the minimal number of plants needed in a population to maintain genetic diversity is sorely lacking in the seed saving literature. While specific numbers for many crops are hard to come by, it is possible to give general guidelines on the minimum number of plants that should be grown for each variety you wish to maintain. Self-pollinated crops, due to their selfing nature, have evolved to tolerate inbreeding and therefore can be perpetuated with small

population sizes (less than 10 plants) and remain healthy. An exception in selfers is a variety that is not homogeneous (uniform). To preserve all of the genetic variation in these cases, it is important to grow at least 64 individuals depending on the extent of the variation. Crosspollinated crops have evolved to avoid inbreeding with several mechanisms to promote outcrossing<sup>a</sup>. All outcrossing species are therefore prone to inbreeding depression and should be grown in sufficient numbers to avoid this condition. Three categories exist for consideration when reproducing a cross-pollinated crop: 1) Corn. Extensive genetic research on this crop gives us some hard numbers! Try to always grow a minimum of 200 plants of any corn variety you increase. 2) Cucurbits. While cucumbers, squash, melons, and watermelons are highly outcrossing species, many Cucurbit researchers have reported little inbreeding depression when self-pollinations of these crops are made. Nevertheless, to maintain diversity in these crops it is best to grow at least 16 plants of each variety. The absolute minimum number of individuals for seed increase in these crops would be 8 plants, and then only if you sib-mate plants via hand-pollination to avoid self-pollinations. 3) Opinions are varied regarding minimum population size for the rest of the cross-pollinated crops, as it often depends on the amount of variation inherent in the variety. Variable endemic varieties need a minimum of 100 plants when increased. Less variable, modern open-pollinated varieties require at least 64 plants to retain genetic resiliency.

Cross-polli	Self-pollinated Crops	
cereal grains amaranth corn² rye²  legumes alfalfa red clover white clover herbs cilantro dill fennel³ mustard parsley³	carrot³ celeriac³.7 celery³.7 Chinese cabbage³.8 cucumber kale³.6 kohlrabi³.6 leeks³ lettuce⁴ mangel².3.5 melon onion³ orach parsnip³ pumpkin¹o radish⁴.9	cereal grains barley flax millet oats wheat  legumes common bean fava bean¹ lima bean pea runner bean¹ sweet pea
vegetables asparagus beet <sup>2,3,4,5</sup> broccoli <sup>3,6</sup> Brussels sprouts <sup>3,6</sup> cabbage <sup>3,6</sup> cauliflower <sup>3,6</sup>	rutabaga <sup>3</sup> spinach <sup>2,4</sup> squash <sup>10</sup> sunflower Swiss chard <sup>2,3,5</sup> turnip <sup>3,8</sup> winter radish <sup>3,9</sup> watermelon	chicory eggplant <sup>1</sup> endive lettuce okra pepper <sup>1</sup> tomato <sup>1</sup>

- 1 Outcrossing (>5%) may occur with peppers outcrossing up to 80%.
- 2 Species pollinated due to wind-borne pollen.
- 3 Biennial species: seed produced in 2nd year after exposure to cold.
- 4 Flower initiation is dependent on daylength >12 hours.
- 5 Beet, mangel, Swiss chard, and sugar beets will cross with each other.
- 6 All Brassica oleracea crops will cross with each other.
- 7 Celeriac will cross with celery.
- 8 Chinese cabbage will cross with turnip.
- 9 Radish will cross with all types of winter radish (includes Daikon, Black Spanish, and Chinese radishes).
- 10 Constitutes four major species of *Cucurbita* grown in North America. See list that delineates which varieties belong to which species<sup>c</sup>.
- a Fundamentals of Plant Genetics and Breeding, p. 69-80. J.R. Welsh. 1981. Wiley and Sons, New York.
- b Seed to Seed: Seed Saving Techniques for the Vegetable Gardener, p. 99-104. S. Ashworth. 1991. Seed Saver Publications, Decorah, Iowa. clbid., p. 114-119.

#### SIGNAL F,: 50 days

With high quality, early maturity, stress tolerance, and reliability, SIGNAL is an ideal fresh market hybrid for northern

growers. SIGNAL produces a 5 inch head that extends well above the foliage for easy cutting. The stem is slender for easy bunching and the compact plant can be spaced 10 inches apart in the row for higher production. Signal has semi-domed heads with small to medium head size. Widely adpated to cool and



hot, dry and humid (and we get all of that in one day). DM #104 50 seeds \$2.50; 500 seeds \$12.00; 1000 seeds \$18.00; 5000 seeds \$26.00



### GREEN GOLIATH: 55 days

Our best selling broccoli developed especially for home gardens. Reliably good-sized heads; one of the best open-pollinated varieties. Heads mature over a three week period; sideshoots develop after first cutting. #105 PKT\$1.40;4 gms \$2.90;1 oz \$4.00; 1/2 lb \$29.50; 1lb \$42.00

#### DE CICCO: 65 days



Old Italian variety with 3-4 inch main head followed by many side shoots for prolonged harvest. Vigorous plant gets large and lasts the whole season. "Those side shoots just wouldn't quit," said one customer. One of the best tasting broccolis. Great for spring or fall planting and freezing.

#100 PKT \$1.20; 4 gms \$3.00

#101 ORGANIC PKT \$1.60; 4 gms \$3.90; 1 oz \$6.00; 1/2 lb \$10.00; 1 lb \$15.00; 5 lb \$39.00



High yield and heat tolerance keeps us offering this variety. Uniform, large, and dense dark green heads. Flavor is sweet. #103 PKT \$2.80; 4 gms \$7.00;



#### THOMPSON: 70 days

1/2 oz \$20.00; 1 oz \$34.50

Fine flavored late season variety with medium to large heads. Matures two weeks later than early broccoli varieties. Matures unevenly for an extended harvest. A great variety for fall harvest.

#107 ORGANIC PKT \$1.40; 4 gms \$4.50; 1 oz \$16.00; 1/4 lb \$41.00

# Broccoli

### Brassica oleracea var. italica

Like its relatives in the Crucifer family (cabbages, cauliflower, etc.), broccoli is a cool-weather crop that does best in the spring and fall when daytime temperatures are not high enough to cause bolting. Broccoli is usually transplanted in spring and can stand frosts if properly hardened off. Transplants that become root bound or are over 7 weeks old tend to form small heads. Fall varieties are generally direct seeded in mid-summer for fall harvest. Broccoli has a shallow root system and demands soil rich in nitrogen and phosphorus and a constant source of water. Lack of water early on may cause miniature heads to develop (called "buttoning"). It is important to practice a disease-prevention program of long rotation and good sanitation. Harvest after heads have formed and before the small buds have opened or when the head spreads with a light touch. To extend harvest cut close to the base of the stalk of the largest head. The plant will continue to produce small side shoots for harvest throughout the season. 75-100 plants per 100 feet; 15 plants per person. PKT 750 mg 125 seeds sows 30 feet; 4400-9400 seeds/oz. CULTURE: Start transplants 6-8 weeks before last frost; keep temperature 50-70° F for 5-7 weeks. Direct seed ¼ inch deep, 4 seeds per foot in rows 18-30 inches apart. Thin plants to 15-18 inches apart. Give more space to plants that will be encouraged to produce side shoots. Deep bed spacing 15 inches apart. SEASON: Cool season. Set out plants 2 weeks before last frost through mid-June. Direct seed from May to June. MIN. SOIL TEMP: 40° F. GERMINATION: 3-10 days. SOIL: Rich, slightly acid pH 6.0-6.8. COMPANION PLANT: Aromatic herbs, potatoes, celery, beets, onions. NOT strawberries, tomatoes, pole beans. PESTS: BLACK ROT, BACTERIAL BLIGHT: Control through crop rotation, avoid tillage when soil is wet; buy hot water treated seed. FLEA BEETLE: Control with mulch, wood ashes, diatomaceous earth (OR beneficial nematodes), neem, or

Market Farm Tips

pyrethrum. CABBAGE LOOPER: Control with Bt. ROOT FLY/ MAGGOT: Use row covers or tarpaper collars to deter flies, use beneficial nematodes OR diatomaceous earth for maggots. SEED SAVING: Cross pollinated annual. Grow a

population of at least 64 plants to preserve genetic diversity.

Cut stalks when seed pods are dry and brittle, dry further

on trays; thresh and clean chaff from seeds.

Start with a nitrogen-rich soil. Plant reliable hybrid varieties (like PREMIUM CROP or SIGNAL). Sow in flats in greenhouse and water daily. Transplant every 10 days for a 6-8 week period, timing your sowings accordingly. Transplant 5 week old seedlings after hardening off for 4-5 days. Commercial spacing (8-10 inches) will typically yield heads of a 5-6 inch diameter. By spacing plants 18 inches apart, heads may reach 10 inches in diameter. Harvest at the peak of maturity when buds are firm and tight. Only 2-3 days separates mature from overly mature broccoli.

# Brussels Sprouts

Brassica oleracea var. gemmifera

Brussels Sprouts develop over a long season and are best picked after a frost. Pick off lower leaves as sprouts develop. For a prolonged harvest, pick lower sprouts to allow upper sprouts to mature. For a one-time harvest, remove top leaves 4 weeks before harvest.

PKT 750 mg 150 seeds sows 30 feet; 5000-9400 seeds/oz.

CULTURE: Start transplants 8-10 weeks before last frost; keep temperature 50-70° F for 4-8 weeks. Direct seed ½ inch deep, 4 seeds per foot in rows 24-30 inches apart. Thin plants to 10-18 inches apart. Deep bed spacing 15 inches apart. SEASON: Cool season: set out plants 2-4 weeks before last frost; direct seed 4-6 weeks before last frost. MIN. SOIL TEMP: 40° F. GERMINATION: 3-10 days. SOIL: Rich, slightly acid pH 6.0-6.8. COMPANION PLANT: Same as broccoli. PESTS: Same as broccoli. SEED SAVING: Same as broccoli except it is a biennial and needs to be wintered over with heavy mulch before flowering the next spring.

#### BUBBLES F,: 91 days

Fool proof variety that grows well in a range of climes and conditions, from cool and wet to hot and dry. A full week earlier than PRINCE MARVEL (which it replaces), BUBBLES produces very nice, uniform, near one inch in diameter sprouts on a sturdy medium tall plant. PM.

#115 PKT \$2.50; 4 gms \$9.00; 1 oz \$55.00



#### LONG ISLAND IMPROVED: 110 days

Tall plants mature early and yield an amazing number of medium-sized, oval sprouts.

#113 PKT \$1.35; 4 gms \$5.80; 1 oz \$7.00

# CONTROL CABBAGE WORMS

Bt, Bacillus thuringiensis, is very effective in the control of cabbage loopers, corn earworm, and the larvae of many other moths and butterflies. Though totally safe to humans, Bt has a devastating effect on larvae.

Adult cabbage looper moths lay eggs on the host plant (your broccoli). The eggs hatch into larvae (cabbage worms) that eat your plants. Eventually the larvae mature into pupae, and then into moths. Bt attacks only the larval stage (who do the eating). Begin spraying when you see the adult moths or butterflies. Repeat sprayings every 10-14 days throughout the season to catch successive hatchings of eggs. The worm must eat the Bt, so spray top & bottom of the foliage, and use a spreader-sticker such as fish oil. Bt can be mixed with kelp or fish fertilizers. Bt works great, so you don't have to put up with worms in your broccoli or use harsh pesticides. See Bt products on page 76.



# Chinese Cabbage

Brassica pekinensis

Chinese Cabbage is best planted in mid to late July. Often in Montana the weather turns cool after Labor Day, which is ideal weather for Chinese Cabbage. Tolerant of light frosts.

PKT .5 gms 350 seeds, sows 60 feet; 6900-11,250 seeds/oz.

CULTURE: Sow seeds 1/2 inch deep, 4 seeds per foot in rows 24-30 inches apart. Thin plants to 18 inches apart. Deep bed spacing 15 inches apart. Optimum soil temperature 75-90°F. SEASON: Direct seed in late June to early July.

MIN. SOIL TEMP: 40° F. GERMINATION: 3-7 days.

SOIL: Slightly acid pH 6.0 to 6.8. COMPANION PLANT: Peas. PESTS: Same as for broccoli.

BLUES F,: 70 days An early, extra slow-bolting variety with superb disease resistance. Ten inch tall heads are crisp, juicy and sweet; great for

#152 PKT \$1.70;

4 gms \$8.90; 1 oz \$55.00



## **EARLY & MID-SEASON VARIETIES**

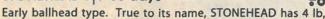
**GOLDEN ACRE: 58 days** 



An early and quite sweet, quick-heading cabbage. Elite strain. Small 2 lb heads are perfect for limited space. Should be picked as soon as heads become hard.

#120 PKT \$1.10; 4 gms \$3.00; 1 oz \$7.10

#### STONEHEAD F,: 60 days



6 inch, dense, evenly maturing heads that hold up well in the field even in the heat of summer. Compact plants are adapted for close planting. Firm texture and small core will enable you to make lots of delicious sauerkraut! FW, BR, YR, AAS 1969.



#121 200 seeds \$1.80; 1000 seeds \$8.00; 5000 seeds \$27.00

#### **EARLY JERSEY WAKEFIELD: 65 days**



Old favorite, early season cabbage with tight, 3 lb, coneshaped heads. Very flavorful and more tender than round types. Great for summer cole slaw. Reliable and well adapted. #122 PKT \$1.05; 4 gms \$3.50; 1 oz \$6.00; 1 lb \$17.00

## LATE VARIETIES

**BRUNSWICK: 85 days** 



This very old variety has never failed to give us quality, 6 lb, flattened heads in quite varied growing conditions. Stores well.

#131 PKT \$1.55; 4 gms \$4.50; 1 oz \$8.00

#### DANISH BALLHEAD: 105 days



Our best storage variety. Resists splitting and stores until late spring. Blue-green, 7 lb heads do well in mountain climates. A well-selected uniform strain.

#132 PKT \$1.40; 4 gms \$4.50; 1 oz \$8.00

# SAVOY CABBAGE

SAVOY EXPRESS F,: 55 days

NEW!

A huge advancement in savoy cabbages! Most savoys are very late season but SAVOY EXPRESS matures at the same time as GOLDEN ACRE. This small framed variety can be planted 12 inches apart and yields nice 1-2 lb heads. Great texture and sweet flavor. Savoy cabbages are avoided



by the cabbage worm and looper. AAS 2000. #150 PKT \$2.00; 4 gms \$6.40; 1 oz \$17.40

# #155 PKT 500 mgs \$3.90; 1 gm \$6.50

# Cabbage Brassica oleracea var. capitata

Cabbage is a versatile, hardy plant. By planting several different varieties with different maturity dates you can have cabbage all year long. Cabbage is sensitive to crowding, so spread plants out. When cabbage reaches proper size for its variety, harvest before splitting. Splitting can be a problem if you use a sprinkler or during a rainy spell after heads are fully mature. Be sure to provide plenty of water during hot, dry periods.

PKT 1 gm 250 seeds sows 50 feet; 4700-11,000 seeds/oz.

CULTURE: Start transplants 8-10 weeks before last frost; keep temperature 50-70° F for 4-8 weeks. Direct seed ¼ inch deep, 3-4 seeds per foot. Rows 18-30 inches apart. Thin plants to 18 inches for early varieties and 24 inches apart for late varieties. Deep bed spacing 15 inches apart, 10 inches for early small varieties.

SEASON: Cool season. Set out plants 2-4 weeks before last frost through mid-June. Direct seed from May through June. MIN. SOIL TEMP: 40° F. SOIL: Rich, slightly acid pH 6.0-6.8. GERMINATION: 4-5 days.

COMPANION PLANT & PESTS: Same as broccoli.

SEED SAVING: Cross-pollinated biennial. See broccoli and Brussels sprouts.

# Market Farm Tips

Choose a reliable variety (like STONEHEAD) and start in greenhouse flats using only a moderately rich potting soil. Too rich of a potting soil will produce leggy seedlings. Ideally, seedlings should be thick and stocky, 3-4 inches tall. Sowing should be timed 5-6 weeks before transplanting. Begin transplanting around the time of the last frost and continue every 10 days through late June. Provide adequate moisture throughout lifecycle. Harvest when heads are firm and dense.

# RED CABBAGE

#### **RED LANGENDIJK: 80 days**

Earlier red variety. Stores well. Similar size heads as LASSO (3-4 lbs.), which is unavailable this year. Compact frame with few outer leaves.

#143 PKT \$1.20; 4 gm \$4..10; 1 oz \$6.00

# ORNAMENTAL GARNISH FLOWERING CABBAGE

TOKYO MIX F, Cabbage: 60 days

A mix of white, pink, and red centered varieties. Pure white heart surrounded by variegated green and white, surrounded by green leaves. Compact plant habit and very cold tolerant, you can enjoy them until well into the Fall in Montana and through much of the winter in milder climates.

# Carrots Daucus carota

There is very little that rivals the flavor of home grown carrots. Carrots are a cool season vegetable, but soil temperatures must be at the very least 40° F (optimal is 80°F), and the newly sprouted seeds must not be allowed to dry out. Carrots often take up to 2 weeks to germinate, and must be kept moist. A firm seed bed will keep moisture around the seed. A very light mulch of straw or grass clippings will also help. A fabric row cover will raise soil temperature. Commercial growers wait 7 to 8 days after sowing and lightly scorch the ground with a gas torch to kill newly sprouted weeds and give the slow growing carrots a better chance. Regardless, early thinning and weeding is a must for carrots. Carrots do better on light sandy or silty loams and do not require high fertility. Carrots harvested after a few good frosts are especially sweet.

½ oz per 300 feet; 50 feet per person. PKT 2 gms 1200 seeds, sows 35 feet.

CULTURE: Sow seeds ¼-½ inch deep, 3 seeds per inch in rows 10 inches apart. Avoid overseeding. Thin to 2 inches apart. For deep beds broadcast seeds and thin to 2 inches or lay chicken wire down, using one seed per space.

SEASON: Cool season. Beginning in mid-April, sow every 2 weeks until mid-July. MIN. SOIL TEMP: 40°F.

GERMINATION: 6-14 days. SOIL: Light soils, pH 5.5 to 6.8. COMPANION PLANT: Peas, lettuce, chives, tomatoes, onions, rosemary, sage. NOT dill. PESTS: WIREWORMS: Control through thoroughly cultivating sod and introducing beneficial nematodes. STORAGE ROT: Cured through crop rotation, storing only sound, unwashed roots 32-35° F in sawdust or sand. SEED SAVING: Cross-pollinated biennial (crosses with other carrot varieties and Queen Anne's Lace). Overwinter or plant stored roots in the spring. To maintain genetic diversity, plant at least 64 roots for each seed crop. Maintain good soil moisture early on. When seed heads are ripe and brown, cut stalks, dry further. Rub seeds from heads and screen to remove chaff. Carrot flowers attract beneficial insects, especially adult parasitic wasps.

Market Farm Tips

Sow carrots in a light, moderately rich soil in rows 7-8 inches apart for easy weeding with a hula hoe. Avoid fresh manure as it leads to hairy, misshapen carrots. Keep soil moist. After 8 days burn the germinating weeds with a propane torch. Thin when plants are 2 inches high. Harvest mature carrots by loosening soil with a spading fork and then pulling up in bunches. Wash carrots before the soil on them dries. In fall after a few frosts, harvest, remove tops, wash and store in bags at 32-35° for winter sales.

# MAIN CROP CARROTS

KINKO 6": 50 days



This popular Chantenay carrot is our earliest variety, even under adverse conditions. Cone-shaped roots are distinctly crisp and sweet. Crack resistant. Does well in shallow soil.

#170 PKT \$1.50; 6 gms \$4.00; 1 oz \$12.00; ¼ lb \$39.00

MINICOR: 56 days



Slender 6 inch blunt-tipped "Amsterdam" or "baby carrot."
Stays delicious and tender without splitting or becoming woody for weeks after maturity. Beautiful, uniform, smooth skinned.

#171 PKT \$1.50; 6 gms \$4.00; 1 oz \$12.00; 1/4 lb \$28.00; 1 lb \$87.00

SCARLET NANTES: 65 days



Our uniform strain of this well-loved classic is crisp, sweet and delicious. 6 inches long, almost cylindrical and blunt ended. Very consistent quality for home gardeners and market farmers.

#172 PKT \$1.20; 6 gms \$1.80; 1 oz \$3.20; ¼ lb \$5.00; 1 lb \$11.00 #169 ORGANIC PKT \$1.80; 6 gms \$3.00; 1 oz \$6.00

BOLERO F,: 68 days



In a taste test of over 30 Nantes carrot varieties, BOLERO was at the top for both fresh eating and for juice quality. Bright orange roots are uniformly smooth skinned and rarely have green shoulders. BOLERO holds in the field without cracking and stores very well.



Perhaps most important, BOLERO is the first Nantes carrot with a high tolerance to Alternaria leaf blight.

**#178** 1000 seeds \$2.20; 5000 seeds \$3.50; 10,000 seeds \$6.00; 20,000 seeds \$10.00

CAMBERLEY: 74 days



This Berlicum type has an enjoyable distinctive flavor and flowery aroma. Tender, 7 inch roots are smooth skinned and deep orange throughout. Tolerant of heavy soil conditions. Refined and delicious.

#179 ORGANIC PKT \$2.00

## **FALL STORAGE TYPE CARROTS**

CORAL II F,: 72 days

We promote CORAL II because of its rich flavor, resistance to forking in heavy soils, strong disease tolerant tops, and for the exquisitely flavored juice it produces. Unlike many sweet, but watery European or American Chantenay and Nantes types, this Kuroda type (often called Kuroda Chantenay for its shape) has a deep rich flavor. The yield potential is also outstanding. These picture perfect roots weigh 2-3 times more than standard fresh market types



and even at full size this carrot remains tender, delicious and smooth. Alternaria tolerant.

#177 PKT \$2.90; 6 gms \$4.80; 1 oz \$13.50; 1/4 lb \$42.50

#### **RED CORED CHANTENAY: 75 days**

Wide top cone-shaped, 6 inch roots that grow well in heavy soil. Deep red-orange roots are crisp, tender. The great flavor of this variety is a well kept secret. Good for canning, juicing, freezing, and root cellaring.

#181 PKT \$1.20; 6 gms \$2.30; 1 oz \$4.50; 1/4 lb \$9.00; 1 lb \$11.20

#### **ROYAL CHANTENAY: 75 days**

Longer roots than RED CORED CHANTENAY, 7-8 inch long, 21/2 inches wide at the crown. Very good bolt resistance. Great storage and juicing carrot.

#182 PKT \$1.20; 6 gms \$2.30; 1 oz \$4.50; 1/4 lb \$9.00; 1 lb \$11.20



#### SCARLET KEEPER: 85 days

Best storage carrot with a sweet flavor that won't turn bitter as it stores. Large, thick, 7-8 inch roots. Dark orange, straight and uniform. This variety is now quite rare.

#173 ORGANIC PKT \$1.80: 6 gms \$3.50; 1 oz \$8.00; 1/4 lb \$24.00

#### **OXHEART: 72 days**

Stout rooted carrot, 4 inches long and almost that wide. Heavy yields in thin soil. This super short Chantenay has a very unique shape. Excellent flavor when large and keeps well. Rare!

**#176 ORGANIC PKT \$1.50**; 6 gms \$3.20; 1 oz \$9.00; 1/4 lb \$30.00



TOP WEIGHT: crop failure

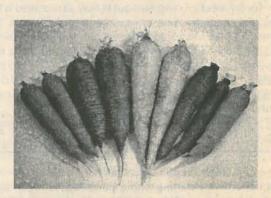
# Carrots

# SPECIALTY CARROTS

DRAGON: 65 days

DRAGON will add a whole new color to your table or your market stand. DRAGON's interior can range from dark orange to orange with a yellow core, which contrasts strikingly with its deep purple exterior. The sweet, spicy flavor of this fine open-pollinated carrot puts it above other purple types, and its flavor comes through when eaten raw or cooked. We are very pleased to be able to bring you this milestone in specialty carrots.

#175 ORGANIC PKT \$2.50; 6 gms \$4.20; 1 oz \$10.20; 1/4 lb \$29.00



#### **NUTRI-RED: 75 days**

Finding a good red variety is difficult for the north because most red varieties bolt in most of the northern continental U.S. Luckily we found NUTRI-RED which reliably produces true red imperator-shaped, 9 inch long carrots tapering to a blunt tip. It has a strong carrot flavor that tastes great cooked, which also enhances the color. The red color is the result of lycopene, a precursor of carotene and a much touted anti-oxident considered important for the prevention of prostate cancer. At 150 ppm lycopene, NUTRI-RED has approximately the same content as red ripe tomatoes. Team up with LUBIANA and DRAGON for a colorful and nutritious display!

#168 PKT \$1.80; 6 gms \$3.50; 1 oz \$10.00; 1/4 lb \$35.00

#### LUBIANA: 65 days

Large bright yellow carrot from Croatia. Shaped like a Danvers with very abundant and strong tops. Attactive in combination with a DRAGON and a dark orange variety like CORAL II F, .. Flavor is mild and sweet. Hill rows to prevent green shoulders, unless you like them.

**#183 ORGANIC PKT \$2.50** 

#### THUMBELINA: 51 days

An early-maturing, full-flavored 1-11/2 inch diameter round carrot that will grow in soils considered too heavy for carrots. Remarkably uniform with a delightfully crisp texture. The best of the round "Paris Market" type carrots. AAS 1992.

#174 PKT \$3.00; 6 gms \$8.00; 1 oz \$21.80

# Cauliflower

Brassica oleracea var. botrytis

Like other Crucifer crops, cauliflower needs rich soils and should not be planted in succession with other Crucifers. The heads develop best in cool weather; excessive dry and hot periods can cause small "button heads" to develop. Sunlight can cause heads to turn yellow, so some varieties need their leaves tied together to shade the curd.

50 plants per 100 feet, 10 plants per person.

PKT 500 mg 115 seeds sows 28 feet; 5600-10,600 seeds/oz.

CULTURE: Start transplants in March; keep temperature 50-70° F for 5-7 weeks. Transplant out in May. Direct seed ¼ inch deep, 3-4 seeds per foot in rows 24-30 inches apart. Thin plants to 18-24 inches apart. Deep bed spacing 15 inches. SEASON: Cool season. Direct seed or plant out starts from May-June. MIN. SOIL TEMP: 40° F.

GERMINATION: 3-10 days. <u>SOIL</u>: Rich, slightly acid pH 6.0-6.8. <u>COMPANION PLANT</u>: Aromatic herbs, potatoes, celery, beets, onions. NOT strawberries, tomatoes, pole beans.

<u>PESTS</u>: Same as broccoli. <u>SEED SAVING</u>: Same as Brussels sprouts; mulch heavily.

Market Farm Tips

Most important is starting with a loose, high nitrogen soil as rapid, vigorous growth is needed for development of large, dense, white heads. Begin transplanting around the time of the last frost and continue every 10 days for 6 weeks. Space early varieties at 15 inches and late varieties at 24 inches. After heads form, it is important to keep sunlight off of them by folding the large, spreading leaves inward, covering the heads. Harvest when heads are 6 inches in diameter and curds are compact, before they begin to separate.

SNOWCROWN F, : 50 days

This sure-heading, snow white classic has enabled many gardeners in marginal cauliflower growing climates to enjoy success every time they grow SNOWCROWN. Released 20 years ago, this widely adapted hybrid is very resistant to "buttoning" (the premature formation of very small heads). SNOWCROWN is also a week earlier than SNOWBALL types.

**#184** 50 seeds \$2.00; 100 seeds \$3.50; 1000 seeds **\$18.00**; 5000 seeds \$51.00

**SNOWCONE:** 55 days

TO NEW!

If you've ever grown open-pollinated varieties and wondered what was wrong with you, it is not you, it's the variety you bought. If you don't live in the cauliflower heaven of the Salinas valley, most O.P.s will give you buttonheads or monsters in our temperature and moisture extremes. Snowcone, in contrast, gives you beautiful semi-domed, medium sized heads. Matures early, and although the plant isn't huge, it has self-wrapping leaves that provide very good curd protection. Excellent quality for an open-pollinated variety.

**#187** 500 mg \$1.10; 2 gms \$3.20; ¼ oz \$5.00; 1 oz \$12.00; ¼ lb \$24.00

### CANDID CHARM F, : 75 days

Best mid-season variety with good curd protection, heavy high dome-shaped heads and hardiness in difficult growing conditions. Does well planted in the spring or early summer for fall harvest. Holds well in the field. Best flavor in our taste test.

**#186** 50 seeds \$2.50; 100 seeds \$4.50; 1000 seeds \$32.40



**VENTURA: 95 days** 

.6

This is an improved Utah-type with 13 inch long petioles. By far the best variety in our trials, with sweet flavor and crisp, non-stringy texure. Upright growth promotes blanching. Performs well under stress. Had trouble with celery before? Try VENTURA!

#194 PKT \$1.20; 1 gm \$3.00; 1/4 oz \$8.00; 1 oz \$24.00



Celery

Apium graveolens

Start celery 12 weeks before transplanting. Harden off plants for 7-10 days by reducing water. Set out plants when temperatures are above 60°F. To produce succulent stalks, plant on rich fertile soil high in organic matter and irrigate regularly. Celery can take a light frost. PKT 250 mg 450 seeds

CULTURE: Start in flats for 12 weeks at temperature from 60-75°F. Transplant 6-12 inches apart in rows 24 inches apart.

SEASON: Cool season. Transplant after last frost. MIN. SOIL TEMP: 60° F.

GERMINATION: 10-20 days. SOIL: Moist; pH 6.0-6.8.

COMPANION PLANT: Leek, tomato, bush beans, cabbage, cauliflower. PESTS: MOSAIC: Control aphids with beneficial insects or soap and tobacco sprays. BLIGHTS: Rotate crops; buy hot-water-treated seed. BLACK HEART: Prevent through adequate calcium. SEED SAVING: Cross-pollinated biennial. Will cross with other varieties and Celeriac. Store or heavily mulch plants for overwintering. Harvest seed the next summer when ripe. Matures unevenly, so shake off seeds into bags occasionally before harvesting; crush heads & screen.

### **LEGUMES**

#### HAIRY VETCH

Vicia villosa, Annual

Vigorous legume produces huge amounts of nitrogen rich biomass for turning under. Can be planted in the spring through late summer. Late summer (late August early September) planted vetch will winter over, growing vigorously the following spring. Can be mixed with oats or rye for maximum weed competition. Hardy; will also sprout in the spring if planted before the ground freezes in November (like winter rye). Livestock caution: Seeds are poisonous.

11b per 1000 sq ft; 40 lbs per acre.

#1014 1 lb \$9.00; 5 lbs \$31.00; 25 lbs \$95.00; 50 lbs \$145.00

#### **AUSTRIAN WINTER PEAS**

Pisum sativum var. arvense, Annual

Excellent overwintering legume. Plant in mid-August to early September to allow plants to come up and harden off, or plant in early November or before ground freezes and seed will germinate in the spring to provide an early season plowdown. Plant alone or mix with winter rye at an approximate ratio of 50% rye to 50% peas. Under good conditions, it will provide 100 lbs of nitrogen per acre when plowed in at half flower. 2 lbs per 1000 sq ft, total seed per acre should be 80-100 lbs. #1009 2 lbs \$4.30; 10 lbs \$12.90; 25 lbs \$18.50; 50 lbs \$24.60

#### TRAPPER FIELD PEAS

Pisum sativum var. arvense, Annual

An excellent source of nitrogen, its vigorous growth makes it possible to get in two crops of green manure per year. Plow under after flowers form. The small peas are also good in soups because they don't go mushy. Plant alone or mix with oats at a ratio of 50% oats to 50% peas.

2 lbs per1000 sq ft; 80-100 lbs per acre.

#1001 2 lbs \$5.15; 5 lbs \$8.50; 25 lbs \$17.00; 50 lbs \$21.80



PARABINGA, great for paths

# Cover Crops and Legumes

The large seeded legumes on this page compete well with weeds and provide nitrogen and biomass when turned under. The cover crops will out-compete weeds and can provide habitat for beneficial insects as well.

#### TIME OUT FOR NITROGEN

When you're giving your field or garden the season off for a little R&R, TRAPPER FIELD PEAS can be planted in both the spring and early summer to rebuild soil fertility. Hardy AUSTRIAN WINTER PEAS can be planted in the late summer and they'll regrow in the spring. It's a real joy to examine their roots for the many bumpy nodules of solid nitrogen created by symbiotic bacteria.

#### **MEDICS**

PARABINGA and SAVA SNAIL Medics are valuable for the home gardener and market farmer in our climate because they are an easy to grow legume that can be planted in summer, tolerating heat and low moisture much better than clovers. Their larger seeds are also much easier to plant than clovers which require a firm uniform seed bed. These are low growing or prostrate varieties that are perfect for planting in paths between beds without shading out your crops. PARABINGA and SAVA SNAIL Medics are very competitive in mid-summer through fall when certain annual and perennial weeds are at their worst. Sow as early as June, or when soil temperatures reach 60°F.

# **MEDICS**

#### PARABINGA

Medicago truncatulla, Annual

A leafy, low growing medic with pale green leaves edged in brown. Vigorous growth provides excellent late summer/autumn weed suppression. Best on light, neutral to high pH soils and performs well with as little as 10 inches of annual precipitation.

½ lb per 1000 sq ft. 12 lbs per acre. #1015 ½ lb \$5.00; 1 lb \$8.00; 5 lbs \$24.00

#### SAVA SNAIL

Medicago scutella, Annual

A taller growing medic, reaching up to 2 feet with more than 14 inches of annual precipitation. Establishes faster than Parabinga and has larger seeds for easier sowing. Dies out when mowed after seed pods form, providing different management options. Smooth spiral (snail-like) seed pods are edible and delicious when immature. Good for paths and green manuring beds. Pods are attractive in dried arrangements.

1 lb per 1000 sq ft; 15-20 lbs per acre. #1016 ½ lb \$5.00; 1 lb \$8.00; 5 lbs \$20.00

# Cover Crops & Legumes

Organic growers use legumes and cover crops, along with compost, to complete their soil fertility programs. They are surprisingly easy to use in home gardens as well.

#### FOR SOIL FERTILITY

Beneficial bacteria form nodules on pea and vetch roots. Through these nodules, nitrogen is taken from the atmosphere and fixed on the roots of legumes. When the plant is plowed in, that nitrogen is made available for other plants. Legumes are also referred to as green manures as they can be used as a fertilizer. Generally legumes are used on ground rotated out of production or parts of the garden you want to rest. Deep-rooted legumes like NITRO ALFALFA have long tap roots that do more to break up hardpan soils than you'd ever even like to think about with a shovel.

#### A NITROGEN RICH MULCH TOO!

If you're not ready to turn your green manure crop under, cut it for hay or mulch. It'll grow back and you can plow it under later. Use the clippings as a nitrogen-rich mulch and provide nutrients to areas not growing green manure.

#### SOIL-BUILDING PATHWAYS

We used to rototill the paths between our beds and rows to control weeds. We've had much better luck with the clovers (especially WHITE DUTCH) on this page and WINTER RYE on page 17. These plants compete well with weeds, add nutrients to the soil, and we prefer mowing to rototilling pathways any day!

#### WEED CONTROL

Both WINTER RYE and BUCKWHEAT have an amazing ability to out-compete weeds. We use rye to squeeze out quack grass, even using it as a border or in the pathways.

#### BENEFICIAL INSECT HABITAT

Good bugs love BUCKWHEAT and so do we. Just rake in some seed after harvesting an annual crop and BUCKWHEAT will keep out the weeds and look great doing it. Green Lacewing adults will feast on the nectar then deposit their "aphid lion" eggs on nearby garden crops.

# NITROGEN-FIXING INOCULANT

Beneficial bacterial culture which lives on the roots of legumes and adds nitrogen to the soil. Improves plant vigor, increases yields.

1112 For Winter Peas, Vetch, Lentils, Fava Beans. Treats up to 15 lbs, \$3.30 (1/4 lb)

1113 For Winter Peas, Vetch, Lentils, Fava Beans.

Treats up to 100 lbs, \$5.50 (1/4 lb)

1114 For Medic, Clover, Sweet Clover.

Treats up to 50 lbs, \$5.00 (1/4 lb)

### **CLOVERS**

#### WHITE DUTCH CLOVER

Trifolium repens, Perennial

A low-growing perennial clover that forms a nice mat perfect for pathways between beds. It competes well against quackgrass and, although the plants grow over into the beds, they can easily be pulled back with a rake before mowing. As a green manure/cover crop it fixes nitrogen, and since it's a perennial, can be plowed in at any time. Pre-inoculated seed. Plant in early spring: April-May.

1/2 lb per 1000 sq ft; 8-10 lbs per acre for dry land,

10-12 lbs per acre for irrigated land.

#1008 1/2 lb \$6.00: 1 lb \$9.00; 5 lbs \$31.00

#### RED CLOVER, Mammoth

Trifolium incarnatum, Biennial

A versatile variety, quick growing and excellent for plowdown to enrich the soil. Needs good moisture. Flowers are used for tea. Plant in early spring: April-May. Pre-inoculated seed. ½ Ib per 1000 sq ft; 8-10 lbs per acre for dry land, 10-12 lbs per acre for irrigated land.

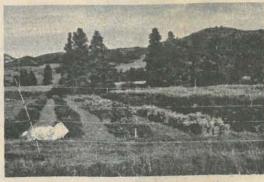
#1005 1/2 lb \$5.90; 1 lb \$9.80; 5 lbs \$21.00; 25 lbs \$80.00

#### NITRO ALFALFA

Medicago sativa, Annual in MT

Easy to grow non-dormant or "annual" alfalfa that usually winter kills here in the north. The advantage of NITRO is that it establishes easily and grows very quickly, unlike first year perennial alfalfa. In gardens or row crop rotation, NITRO produces plenty of top growth and a complementary amount of root growth to incorporate as green manure. NITRO can produce as much as 130 lbs per acre of nitrogen and yield up to 3 tons per acre of dry matter. Sown in early May and provided with adequate water, NITRO can be cut twice for a nitrogen rich mulch or protein rich hay and later plowed in as a green manure. Nitro is perfect for rejuvenating worn out soils. Plant in early spring: April-May.

½ lb per 1000 sq ft; 15-20 lbs per acre. #1003 ½ lb \$6.50; 1 lb \$8.50; 5 lbs \$32.00



Clover used in the paths of our trial gardens

### **COVER CROPS**

#### WINTER RYE, Puma

Secale cereale, Perennial (Biennial if allowed to go to Seed) Very hardy, winter rye is valued for its ability to break up hardpan soils with a profusion of roots and root hairs. It suppresses weeds, especially quack grass, both by aggressive growth and by exuding a natural herbicide. Adaptable to a wide range of soil and climate conditions. Can be planted from early spring until the ground freezes as a winter cover crop. Plant in the fall with winter peas for nitrogen, organic matter and weed suppression. NOTE: If not mowed, rye will grow into three foot tall cereal grain crop.

3 lbs per 1000 sq ft; 100-140 lbs per acre.

**#1011 ORGANIC** 3 lbs \$5.50; 10 lbs \$10.00; 25 lbs \$15.00; 50 lbs \$21.00

#### **BUCKWHEAT**, Mancan

Fagopyrum esculentum, Annual

Especially valuable for its release of phosphorus, buckwheat also contributes a significant amount of organic matter. Very competitive with weeds, good for breaking up the soil. Can grow two crops in Montana. Bees love it! Seed when ground is well warmed and after last spring frost; it has no frost tolerance. 1 lb per 1000 sq ft; 37-50 lbs per acre.

**#1010 ORGANIC** 1 lb \$4.00; 5 lbs \$9.00; 25 lbs \$20.00; 50 lbs \$32.00

# & Legumes

#### **RYEGRASS**

Lolium multiflorum Annual

Quick growing annual grass that can be sown wherever you need to cover the soil quickly but will not persist through the winter. Sow thoughout the growing season in pathways and waste areas. Late summer sown ryegrass will form a mat like mulch for certain crops after it winter kills in the fall. 1 lb per 1000 sq ft; 40 lbs per acre.

#1012 1 lb \$5.48; 5 lbs \$15.50; 25 lbs \$48.00

#### OATS, Oatana certified

Avena sativa, Annual

Very effective spring planted cover crop. Works well planted early in the spring (at least 45-50°F soil temp.) with clover, especially MAMMOTH RED CLOVER or TRAPPER FIELD PEA. Provides lots of organic matter when turned in green. Can be planted in late summer to freeze out in the Fall providing stubble for wildlife and preventing soil erosion.

3 lb per 1,000 sq ft; 100-140 lbs per acre.

#1013 5 lbs \$6.50; 25 lbs \$16.30; 50 lbs \$22.00

# USE OF COVER CROPS AND LEGUMES



Paths: walkways between garden beds or crop rows.

Beds: intensive deep beds or wide row area.

Field: larger undivided field or garden area.

Cover Crops and Legumes	Application	Planting	Notes		
WHITE DUTCH CLOVER	paths	early Spring	low growing for paths, perennial  mix with oats for high weed suppression; water user  multiple cuttings, high bio-mass producer  hardy, vigorous growth		
MAMMOTH RED CLOVER	paths; beds	early Spring			
NITRO ALFALFA	beds	Spring			
HAIRY VETCH	beds; field	early Spring; Fall			
AUSTRIAN WINTER PEA	field	early Spring; Fall	plant late Summer/Fall for early Spring growth		
TRAPPER PEA	field	early Spring	easy to plant (large seeds) Spring legume great Summer legume for paths great Summer legume; edible pods		
PARABINGA MEDIC	paths	Summer			
SAVA SNAIL MEDIC	paths; beds	Summer			
ANNUAL RYEGRASS	paths; beds	Spring, Summer	non-invasive cover crop (winter kills and leaves mulch)		
WINTER RYE	paths; beds; field	Spring, Summer, Fall	all-purpose year-around cover crop		
OATS	beds; field	Early Spring, Summer	vigorous weed suppressing cover crop vigorous weed suppressing cover crop easy to plant (large seeds) cover crop best weed suppression in local study (with Red Clover) easy to plant (large seeds) cover crop		
BUCKWHEAT	beds; field	Summer			
OATS and PEAS (50:50)	beds; field	Early Spring			
OATS and CLOVER (75:25)	beds; field	Early Spring			
OATS and VETCH (80:20)	beds; field	Spring, Summer			
WINTER RYE and PEAS (50:50)	beds; field	Early Spring, Fall	over-winters when using Austrina Winter Peas		
WINTER RYE and CLOVER (75:25)	beds; field; paths	Early Spring	weed suppression		
WINTER RYE and VETCH (75:25)	beds: field	Early Spring, Summer	weed suppression		

# Corn Zea mays

## **OPEN-POLLINATED SWEET CORN**

#### **EXTRA EARLY GOLDEN BANTAM: 69 days**

Venerable yellow sweet corn heirloom. Earlier version of the famous Golden Bantam. 5-6 inch long cobs with 8 rows of large bright yellow kernels. Smaller 5 foot tall plants can be spaced closer together. Germinates well in cold soils. Good old-time corn flavor; best used for roasting ears.

#203 PKT \$1.60; 1/2 lb \$4.00



#### ASHWORTH:

69 days

Beautiful golden yellow ears, 61/2 inches long with 12 rows of large plump kernels. Early maturity and good cold soil emergence, coupled with an extended harvest period, make ASHWORTH an excellent open-pollinated home garden corn. Quality holds reasonably well on the stalk with very good flavor. Organically grown in Dixon, Montana.

#200 ORGANIC PKT \$2.20; 1/2 lb \$7.00; 1 lb \$12.70; 5 lbs \$51.60

#### YUKON CHIEF: 55 days

A real find from the University of Alaska Agriculture Experiment Station bred in the mid-1960s. This exceptionally early dwarf corn grows to only three feet tall, but the 5-6 inch ears have 10-12 rows of golden yellow kernels with outstanding flavor for a normal sugary, open-pollinated corn. Bred for the north, this corn has excellent cold soil emergence and matures in only 55 days. Organically grown in Dixon, Montana.

#202 ORGANIC PKT \$2.80

ART VERRELS: crop failure

## POPCORN

TOM THUMB: 85 days

Extra early open-pollinated popcorn. 3-4 inch long ears on dwarf 3 foot tall plants. Succeeds even in cold climates. A fun crop for kids to grow and enjoy.



#208 ORGANIC PKT \$2.50; 1/2 lb \$7.30

# OPEN- POLLINATED FLOUR AND FLINT CORN

#### **VERMONT YELLOW FLINT: 82 days**

High quality yellow grain corn that is sure to mature even in cool years. VERMONT YELLOW FLINT is a beautiful, true 8-rowed northern flint with deep golden kernels on 8-inch long, thin ears with perfectly straight rows. Successful corn variety from Maine to Puget Sound, probably of Iroquis origin. Flavor is nutty and rich when ground for baking and cereal. Also great for old-fashioned roasting ears when picked at the milk stage. #204 ORGANIC PKT \$2.30; ½ lb \$7.70; 1 lb \$12.50; 5 lb \$42.00



Vermont Yellow Flint Corn

#### PAINTED MOUNTAIN: 80-90 days

The corn most adapted for the cold and mountain regions of the arid west. A very early flour corn that tolerates high winds, cold nights, and drought, while producing beautiful sleek 7 inch long ears in a full range of colors. Short, stout plants matured a full two weeks before all other ornamental corn varieties in our 1994 trials. Plant just before last frost (it's tough and will usually come back if tops freeze). The perfect homesteading food, bred to be the hardiest corn in the world.

Multi-purpose corn can be eaten as sweet corn or hominy, or ground for use as an excellent flour for tortillas and corn bread. Vivid colors indicate high flavonoid content, recently discovered to protect against heart disease and cancer. Painted Mountain is being used today as an ornamental, including craft projects utilizing the multicolored stalks and husks. Montana Northern farmers are using Painted Mountain as an early corn fodder crop. We like this variety.



#209 ORGANIC PKT \$2.00;1/2 lb \$7.70

# HYBRID VARIETIES



### EARLIVEE F,: 69 days

Great flavor for an early variety. Dependable, 6-7 inch ears with 12 rows, filled to the tip. Good cold soil emergence. Developed in Canada. Five foot tall plants. #216 PKT \$2.00; ½ lb \$7.20

### EARLY SUNGLOW F, : 70 days

Popular, hardy northern variety, produces a compact 7½ inch ear with an attractive, burgundy-hued husk. Flavorful kernels in 12-14 rows. Excellent cold soil emergence.

#214 PKT \$2.00; 1/2 lb \$6.50; 1 lb \$11.00; 5 lbs \$39.00

### SENECA HORIZON F, : 75 days

Has good cold soil vigor and a large impressive ear for an early corn. Although the 8 inch ear is about the same length as many others, this 18-row corn has larger kernels and girth. #220 PKT \$2.45; ½ lb \$8.50

# KANDY KWIK F, se/se: 75 days

Tops for flavor and size in an early corn. Maturity and size same as SENECA HORIZON, but KANDY KWIK is better flavored. 14-16 rows on a 7½ inch ear, kernels are both sweet and tender. Good cold soil emergence for a sugary enhanced variety. Early vigor combined with Steward's Wilt and Northern Corn Leaf Blight resistance, make KANDY KWIK an excellent first early market corn. W.



#217 PKT \$2.00; 1/2 lb \$8.00; 1 lb \$15.00; 5 lbs \$47.80

#### Sugary-Enhanced Varieties - se/se; se/su:

These varieties have increased sweetness and remain sweet longer after harvest than normal varieties. Unlike Supersweet corn (sh<sub>2</sub>; which we don't carry), these varieties don't need to be isolated, have a more tender kernel, and have better emergence in cold soil. Make sure that soil is warm before planting these varieties, as they are not as hardy as the normal sugary varieties. Those marked se/se are fully sugary enhanced (homozygous) as opposed to the less sweet se/su (heterozygous).

# Corn Zea mays

Corn needs a consistent source of water and requires rich soil. During the growing season, it helps to add a side dressing of a rich nitrogen fertilizer (fish emulsion, manure tea). Adequate available phosphorous is also important. Corn will deplete soils rapidly if planted consecutively in the same place. To develop full-seeded ears, complete pollination must take place. Since corn pollen is windborne, it is best to plant in blocks of at least four rows deep or in a circle. Our seed is not treated with a fungicide, so plant only after soil has thoroughly warmed. To extend the season, plant under plastic or fabric row cover. 100 feet per person.

PKT 1½ oz 180 seeds sows 60 feet; 1800-4000 seeds/lb.

<u>CULTURE</u>: Sow after last frost, 3 seeds per foot, 1 inch deep for sugary-enhanced corn or 2 inches deep for normal sugary corns; thin to 8-12 inches apart with 2-3 feet between rows. For circles, plant seeds 8 inches apart in circles 2 feet in diameter; 1 foot between circles. <u>SEASON</u>: Warm season, plant after last frost.

MIN. SOIL TEMP: 60° F. GERMINATION: 4-7 days. SOIL: Rich, slightly acid, 6.0-6.5 pH. COMPANION PLANT: Potatoes, cucumbers, peas, beans. Squash can be grown between stalks. PESTS: CORN EARWORM: Hand pick or squirt silk with mineral oil, or Bt solution, or inoculate soil with beneficial nematodes. LEAF SPOT: Avoid late plantings, fertilize properly. ROOT ROT: Rotate crops, provide properly drained soils. CUTWORMS: Beneficial nematodes OR diatomaceous earth. SEED SAVING: Cross-pollinating annual. Will cross with other corn varieties up to one mile away. Seed should be collected from at least 200 plants to prevent inbreeding depression. Wait until corn kernels are completely mature (shriveled, dented, or round depending on type of corn), dry further in a well ventilated space. Ears can be allowed to dry on the plant but may need protection from hard frosts before the kernels are dry. Strip kernels from cob, store dry and cool.

# Market Farm Tips

For continuous harvest, plant varieties with different maturity dates. For example, from a mid-May planting EARLIVEE, KANDY KWIK and QUICKIE will be ready in early August, TRINITY F<sub>1</sub>, SUGAR BUNS and KANDY KING in mid to late August (in an average year). Corn is ready to harvest 18-23 days after silk has appeared on half of the plants (called half silk) Harvest sweet corn in the morning and keep refrigerated.

# Corn

# HYBRID VARIETIES

### KANDY KING F, se/se: 80 days

Finally a true mid-season yellow sweet corn that has the quality of late season varieties. Its 81/2 inch ears are bigger than any other early or mid-season variety we've trialed, with 18 rows of tender, sweet and juicy kernels. KANDY KING has good cold soil emergence and early vigorous growth under less than ideal conditions. A full week earlier than KANDY KORN! Resistant to Stewart's Wilt. W #219 PKT \$2.20; 1/2 lb \$8.00;

1 lb \$15.00; 5 lbs \$47.80



Order on Line on our website: www.gardencityseeds.com

# SUGAR BUNS F, se/se: 78 days

Popular gourmet sweet corn has unbeatable sugary, sweet flavor. 7½ inch long ears with 14 rows. Stays tender and sweet in garden for up to two weeks. The standard for sugary enhanced flavor. #222 PKT\$2.50; ½ lb \$8.00; 1 lb \$15.00;



# **BI-COLOR**

5 lbs \$59.00

### QUICKIE F, se/su: 68 days

One of the earliest bi-colors we've trialed. Appealing 7 inch long, 12-row ears on productive 5½ foot tall plants. Great taste. Reliable.

#227 PKT \$2.00; 1/2 lb \$7.20

#### TRINITY F, se/se: 75 days

NEW!

Great flavor and texture with a refined 7½ to 8 inch ear. TRINITY has very good cold soil emergence and cold tolerance for a homozygous sugary enhanced variety. Truly northern adapted, TRINITY handles adverse conditions well and we feel it is the best all-around bi-color sweet corn.

#226 PKT \$2.40; 1/2 lb \$7.50; 1 lb \$12.50; 5 lb \$55.00

# Seed Life Expectancy when stored under favorable conditions

Vegetable seeds retain their germination better when stored under cool, dry conditions.

Asparagus	3 years	Cress, garden	5 years	Parsley	1 years	
Bean	3 years	Cress, water	5 years	Pea	3 years	
Beet	4 years	Cucumber	5 years	Pepper	2 years	
Broccoli	3 years	Eggplant	4 years	Pumpkin		
Brussels Sprouts		Endive	5 years	Radish	5 years	
Cabbage		Fennel	2	Rutabaga	4 years	
Carrot		Kale	4 years	Sorrel		
Cauliflower		Kohlrabi		Spinach		
Celery		Leek		Squash		
Chard, Swiss		Lettuce		Tomato		
Chicory (Radicchio)		Muskmelon	7	Turnip		
Chineses Cabbage		Mustard		Watermelon		
		New Zealand Spinach	4		ESS LIEV	
Corn Salad		Onion		to be ago to thought have		

# **SLICING CUCUMBERS**

SWEET SUCCESS F,: 54 days

This burpless cucumber has all the key elements for success! SWEET SUCCESS is incredibly early - at least a week earlier than standard slicing varieties, which is amazing, since SWEET

SUCCESS fruit is 14 inches long and 2½ inches wide when at its optimum harvest size. Even when grown to this large size, it has perfect eating quality with a tender thin peel that is always sweet, never bitter. SWEET SUCCESS produces great crops in both the field and greenhouse, because it does not need pollination to produce fruit. Grow on short trellis for straight fruit or on ground for slightly curled fruit. CMV, SCAB. #236 PKT (20+ seeds) \$3.00;

100 seeds \$11.00; 200 seeds \$18.50



DASHER II F,: 55 days

The number one fresh market slicing cucumber in the U.S. for the last 5 years. This early, disease resistant and productive variety usually isn't made available to the gardener and small grower, but it's one of those varieties that's good for large and small. Dasher has high yields and beautiful fruit like many hybrid slicers, but it really stands out for early yield and crisp sweet flavor! CMV, SCAB, PM, DM A-2, ALS.

#239 PKT (20+ seeds) \$2.50; 6 gms \$9.05; 1 oz \$26.90



MARKETMORE 80: 60 days



We are proud to be one of the only companies to offer what many consider the best Marketmore variety! northern slicer is dark green, straight and stays that way throughout the picking season. Unlike MARKETMORE 76 or 86. MARKETMORE 80 has the bitterfree gene that insures nonbitter cucumbers even under stressful growing conditions. Cucumber beetles don't find these plants as attractive as other cucumbers. CMV, SCAB, PM, DM.

**#232 ORGANIC** PKT (20+ seeds) \$2.20; 6 gms \$3.30; 1 oz \$9.50; ¼ lb \$35.00

# Cucumber

Cucumis sativus

Cucumbers like hot growing conditions and are not frost-tolerant. They seem to prefer full sun, but will grow fine in partial shade (under upright crops like corn). Prior applications or side dressings of well-rotted manure or compost are beneficial. A number of diseases affect cucumbers, many of which can be controlled by swift removal of diseased plants. Overhead watering also encourages some fungal diseases. 4 plants per person. PKT 2.5 gms 70 seeds, sows 12 feet; 1000-1300 seeds/oz.

CULTURE: Sow 6 seeds per foot in rows 2-4 feet apart, ½ inch deep and thin to 6-12 inches apart. In hills thin to 2-3 plants per hill 6 inches apart, hills 2 feet apart. Can start indoors in peat pellets 2 weeks before transplanting. SEASON: Warm Season, after last frost. SOIL: Rich, well-

drained, pH up to 6.8. MIN. SOIL TEMP: 60° F.

GERMINATION: 3-7 days. COMPANION PLANT: Beans, corn, peas, radishes, sunflowers. NOT aromatic herbs, potatoes. PESTS: STRIPED CUCUMBER BEETLE: Control by mulching heavily and with beneficial nematodes. Use rotenone or pyrethrum for heavy infestations. BACTERIAL WILT: Spread by cucumber beetle. MOSAIC (CMV): control perennial weeds in garden (pigweed, burdock). LEAF SPOT: Rotate crops. FOR ALL DISEASES: Plant resistant varieties.

SEED SAVING: Cross-pollinated annual. Will cross with other cucumber varieties. Grow cucumber to large gourd, either yellow or whitish-green, depending on variety. Scoop out seeds, allow to ferment at room temperature for 4 days, rinse and float off scum and dead seed. Dry slowly, store cool and dry.

#### SPACEMASTER 80: 58 days

Slicer-sized, bitter-free fruits on determinate plants. Excellent choice for small spaces or container gardens. Good yield if picked frequently. Slender 6 inch fruits. CMV, SCAB, PM, DM. #233 PKT \$1.40

# **BEIT ALPHA/MID EAST CUCUMBERS**

SWEET XENA F<sub>1</sub>: 57 days
Delicious thin-skinned Beit Alpha
with crisp, crunchy, melony flavor.
Doesn't need a pollinator like
SWEET CRUNCH, which it replaces.
High yielding and uniform.
#240 PKT \$3.50; 6 gms \$7.00;
1 oz \$28.00



# Cucumber

# NOVELTY CUCUMBER

LEMON: 65 days

This round, yellow heirloom cuke has a crisp, sweet flavor



when eaten fresh and is also firm enough to make golden pickles. Many gardeners insist on planting a small crop of these for eating right off the vine, even if they plant a modern cuke as their maincrop variety. Black-spined. #235 PKT \$1.60

# ORIENTAL CUCUMBERS

SUYO LONG: 61 days

Now you can enjoy long, thin-skinned oriental cucumbers from garden grown plants! This sweet, "burpless" type can produce slender, deeply-ridged 15 inch long cukes that are outstanding in salads. Vigorous, widely adapted plants withstand hot, as well as cool weather to make this the best open-pollinated variety of this type. Trellis for straight fruit. PM.

#234 PKT (20+ seeds) \$2.20; 6 gms \$6.00; 1 oz \$23.80

# PICKLING CUCUMBERS

NORTHERN PICKLING: 48 days

Reliable, early pickler, bearing medium-sized fruits with black spines. Vines are shorter than standard varieties. Very dependable! SCAB.

#231 PKT \$1.80; 6 gms \$3.80; 1 oz \$10.20

#### COUNTY FAIR F,: 50 days

This productive pickling cucumber is the only bacterial wilt resistant cuke available! Extensively tested for pickling quality, COUNTY FAIR makes consistently firm, crunchy, tasty pickles. COUNTY FAIR is predominantly female flowering, but requires no pollinator. Exceptional multiple disease resistance combined with blocky shape make this the best home gardening pickler available. Bitterfree. BW, CMV, SCAB, PM, ANTH, ANG.



#237 PKT (20+ seeds) \$2.00; 6 gms \$3.50; 1 oz \$8.00; 1/4 lb \$17.00

#### **HOMEMADE PICKLES: 55 days**

Our best producing open-pollinated pickling cucumber. This most popular pickler has vigorous plants, disease resistance and abundant, uniform fruits. Very tender when 2-6 inches long. Solid interior makes crisp pickles. Good flavor for fresh salads, too. CMV, SCAB.

#238 PKT \$1.20; 6 gms \$2.20; 1 oz \$4.50; 1/4 lb \$12.00; 1 lb \$31.00

# Eggplant Solanum melongena

Eggplants need heat. Some gardeners grow eggplants all year in a greenhouse; some cover the plants with a cloche at night to hold warmth.

65 plants per 100 feet, 6 plants per person. PKT 250 mgs 50 seeds; 5500-7200 seeds/oz.

CULTURE: Start in flats 8 weeks before transplanting. Sow 2-3 inches apart and transplant into pots after the first true leaves have appeared. To harden off, cut back on water and allow temp. to drop to 60° F for a week. Keep temp. 65-80°F. Plant 18 inches apart in rows 30-32 inches apart. Deep bed spacing is 18 inches apart. SEASON: Warm season. Transplant in mid-June or when night temp. stays at least 45°F. MIN. SOIL TEMP: 70° F. average.

GERMINATION: 5-7 days. SOIL: pH 6.0-6.8.

COMPANION PLANT: Beans.

PESTS: VERTICILLIUM WILT: Control through crop rotation.
COLORADO POTATO BEETLE: Hand pick and destroy egg
clusters, use Bt var san diego.

<u>SEED SAVING</u>: Mostly self-pollinated annual, but will cross with other eggplant varieties. Grow at least 8 plants for good genetic variation. Pick fruit when very ripe. Wash seeds from pulp. Dry; store cool and dry.

### DUSKY F,: 65 days

The most reliable early eggplant. Since 1975, many short season gardeners and truck farmers have relied on this widely-adapted, mid-size black eggplant for a first-early crop. Great also for warmer season areas for an early market advantage.

#242 PKT \$1.80; 500 mgs \$2.50; 3 gms \$7.20

#### EARLY BLACK EGG: 65 days

Always reliable, early, and productive, this is a fine openpollinated variety. Produces nice black/purple, teardropshaped, 5 inch long fruit.

#241 PKT \$2.50; 500 mgs \$4.50; 3 gms \$22.00

#### ICHIBAN F,: 61 days

Excellent early Asian variety best harvested when the fruit is 7 to 10 inches long. Elongated eggplants are very popular for both Asian and Italian dishes. Very productive 36 inch tall plants are sturdy with an attractive purplish foliage. Reliable and hardy enough for the north.

#243 PKT \$1.80; 500 mgs \$3.10





#### SUNDAK

Hard to find variety. Earlier than MAMMOTH. One medium-large head per sturdy 5-6 foot stalk. Gray and black striped confectionery quality seeds. Good also for wildlife and domestic birds. Rust resistant. 200 seeds per oz.

#675 ORGANIC PKT 5 gms \$1.30; 1/2 oz \$2.90; 1/2 lb \$5.90; 1 lb \$10.25





#### LEMON QUEEN

A favorite of our '96 sunflower trial and at the Bitterroot farmer's market. Multiple 5 inch blossoms on a single stem give impressive, full arrangements. Stands out for its unusual pale petals yellow densely surrounding dark brown center

disks. Manageable 5-7 foot tall plants. From Holland.

900 seeds per oz.

#672 PKT (50 seeds) \$1.70; 1/2 oz \$4.90

### PRADO RED F,

Deep red/burgundy flowers with brown centers distinguish this early variety. The brilliant 4-6 inch red blossoms are borne on multiflowering plants with long stems that make PRADO RED ideal for flower arrangements. Its pollen-free discs are a great asset in the cut flower trade and the 4-6 feet high plants are perfect for ease of harvest. Plant close together (6-8 inches apart) and go easy on the fertilizer for great yields of



perfect cutting flowers in limited space. 700 seeds per oz. #674 PKT 20 seeds \$2.50; 100 seeds \$8.00

FLOWER KEY

↑ = Tall Growing

= Full Sun

\_ = Low Growing

= Shade

M = In Seed Racks

T = Medicinal

森 = Cold Hardy

# Sunflowers

Helianthus annuus

 ${
m An}$  annual with disk-shaped flowers that turn toward the sun as they grow. Leave plants standing as a ready-made bird feeder, or harvest seeds for roasting or sprouting.

CULTURE: Sow 3 seeds per foot, thin to 8-12 inches apart in rows 30 inches apart. Germinates in 1 week. Deep bed spacing 24 inches apart.

SEASON: Warm season. Plant after last frost.

SOIL: Slightly acid pH 6.0-6.8. MIN. SOIL TEMP: 50° F.

COMPANION PLANT: Cucumbers. NOT potatoes, radishes or wheat. SEED SAVING: Cross-pollinated annual. Will cross with other varieties. Wait until seeds are dry in flower head. Rub out seeds, winnow away chaff, store cool and dry.



#### **AUTUMN BEAUTY**

This exuberant sunflower has the perfect range of autumnal colors when it blooms in your late summer garden. Sturdy multibranching 6-8 foot tall plants support many 6-8 inch diameter flowers in colors that include bright yellow, deep gold, mahogany red, reddish-purple, and bicolors of all these shades. Excellent for cut flowers, producing many longstemmed flowers. 1700 seeds per oz.

#670 PKT 2 gms \$1.50; ½ oz \$3.00

#### **TEDDY BEAR DWARF**

An attractive ornamental with 5 inch double, fluffy, golden blooms on compact 3-4 foot plants. These are especially good for tall borders. 1700 seeds per oz. #677 PKT 4 gms \$2.50; 1/2 oz \$7.20



#### ORNAMENTAL MIXTURE NEW! A splendid mix of

AUTUMN BEAUTY, LEMON QUEEN, VELVET QUEEN, and ITALIAN WHITE. A long lasting display of with orange yellow shades of Autumn Beauty, the deep red of Velvet Queen, the soft yellow of Lemon Queen, and the pearly white of Italian White. #676 ORGANIC PKT 5 gms \$1.60; 1/2 oz \$6.00

# Flowers, Annuals

#### AFRICAN DAISY

Dimorphotheca aurantiaca, Annual Mixed yellow and orange flowers, 3 inches across on stems 2 feet high. Foliage is an attractive gray-green; flowers close at night. Amazingly frost tolerant for long-lasting color. Approx. 200 seeds/PKT; 7820 seeds/1/2

Flowering Period: Summer. Germination: 10 days at 65° F.

Culture: Direct seed after last frost or transplant 6-8 week old plants.

Spacing 6-8 inches apart. Full sun; light, sandy soils.

#600 PKT 500 mgs \$2.35

#### **ALYSSUMS**

Lobularia maritima, Annual

Spreading plants with many small flowers; popular for rock gardens. Very easy to grow. Bees and other beneficial insects are particularly attracted to these tiny sweet-smelling blooms. Approx. 200 seeds/PKT; 28,250 seeds/½ oz.

Flowering period: May until frost. Germination: 6-10 days at 60 F with light. Do not cover seed. Culture: Direct seed after last frost or sow in flats 4-6 weeks before transplanting small clumps. Full sun or partial shade. Well drained soil.

#### Snowcloth

Profuse fragrant small white flowers on 3-4 inch plants. Plants spread 10 inches wide.

#602 PKT 100 mgs \$2.00

#### Deep Red

Best cherry-rose colored variety on the market with vigorous and uniform 3 inch tall foliage. Part of the Wonderland Series. '78 Fleuroselect Bronze Medal Winner.

#601 PKT 100 mgs \$2.55

#### **ASTER, Giant Perfection**

Callistephus chinensis, Annual

Vigorous bloomer! Strong 30 inch long stems and upright

branching plants provide extra large flowers for cutting. Used by professional cut flower growers and home gardeners. Mixed colors. Provides vivid blooms after most others fade with frost. Approx. 100 seeds/PKT; 3500 seeds/¼ oz.

Flowering Period: Mid- to late Summer. Germination: 10-14 days at 65-70° F.

Culture: Direct seed in May or start indoors 6 weeks before planting out after last frost. Space 12-18 inches apart.

#604 PKT 200 mgs \$1.20

**BACHELOR BUTTONS, Cornflowers** 

Centaurea cyanus, Annual 2 foot high plants with gray-green foliage. Flowers dry well if picked soon after opening. Plants will flower longer if faded blooms are picked off. Mixed white, red, blue and pink. Approx. 330 seeds/PKT;

TOO

Flowering period: Spring through fall. Germination: 7-10 days at 60°F. Culture: Direct seed as soon as ground can be worked in the spring. Thin to 8 inches apart. Will reseed itself.

#605 PKT 1.5 gms \$1.20; 1/2 oz \$4.60

### **CALENDULA, Pacific Beauty**

Calendula officinalis, Annual Bright orange and yellow flowers on bushy 11/2 foot tall plant. Blooms all season long and is frost tolerant well into the fall. Used medicinally in ointments. Approx. 125 seeds/PKT;

1750 seeds/1/2 oz.

3120 seeds/1/2 oz.

Flowering period: Summer and fall. Germination: 7-14 days at 60° F. Culture: Sow in flats 5 weeks before transplanting after last frost or direct seed in May. Thin to 10-12 inches apart. Reseeds itself abundantly. Full sun; average soils.

#606 PKT 1 gm \$1.20; 1/2 oz \$4.50 #613 ORGANIC PKT 1 gm \$1.80; 1/2 oz \$7.30

CALENDULA, Resina: see Herbs, page 34

#### COSMOS

Cosmos bipinatus, Annual

Bushy, vigorous 2-4 foot tall plants with large single 3 inch blooms. Attractive fern-like foliage. Easy to grow, not particular about soil, producing largest plants on better soils.

Approx. 125 seeds/PKT; 1750 seeds/1/2 oz.

Flowering period: Mid-summer until frost. Germination: 7 days at 70° F. Culture: Direct seed in late May or start 5-6 weeks before last frost in individual pots, several seeds per pot. Plant whole clump after frost. Space 1 foot apart. Full sun, partial shade. Average soils. Will reseed itself.

#### **Bright Lights**

Yellow, orange and red. 2 feet tall. #608 PKT 1 gm \$2.00

#### Sensation Mix

Rose, crimson, white, and pink. 3-4 feet tall. #609 PKT 1gm \$1.20; 1/20z 8.65 #616 ORGANIC PKT 1 gm

\$1.60; 1/2 oz \$14.00



50 C

#### SCARLET FLAX

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Linum rubrum, Annual
1½ foot tall plants with delicate
flowers borne on gently
arching stems. Seed pods may
be used in dried arrangements.
Approx. 300 seeds/PKT; 4250
seeds/½ oz.



<u>Flowering period</u>: June to August. <u>Culture</u>: Same as BLUE FLAX on page 29.

#610 PKT 1 gm \$1.20; 1/2 oz \$10.00

#### LARKSPUR.

01

Consolida orientalis, Annual

Beautiful long flower spikes on 4 foot plants in colors of violet, pink, rose, blue. Also excellent for cutting and drying. Approx. 160 seeds/PKT; 4700 seeds/½ oz.

Flowering period: June to August. Germination: 2-3 weeks at 55-60°F. Culture: Sow in spring as soon as soil can be worked, or start indoors 6-8 weeks before planting out. Prefers a cool climate and full sun. Will reseed itself.

#611 PKT 500 mgs \$2.00

#### MARIGOLDS, Annual

Easy to grow and very popular for its blooms and attractive dark green foliage. Tall types can also be used as borders around your garden to help keep pests out! See seed counts below.

Flowering period: Summer. Germination: 7 days at 70°F.
Companion plant: Deters Mexican bean beetle, nematodes and many other insects. Culture: Direct seed after last frost or start indoors 6 weeks earlier. Full sun. Most soils. Space 10-12 inches apart for tall varieties and 6-8 inches for dwarf. Will reseed itself.

#### TALL AFRICAN TYPE

Crackerjack, Tagetes erecta

Early, giant carnation flowered mix of orange, gold and yellow. 3 feet tall. Approx. 60 seeds/PKT; 3650 seeds/½ oz. #617 PKT 250 mgs \$1.20; ½ oz \$5.30

#### **DWARF FRENCH TYPE**

Sparky, Tagetes patula



Vigorous French type. Double flowers are deep red with orange flecks. 10-12 inches tall.

Approx. 80 seeds/PKT; 4500 seeds/½ oz. #614 PKT 250 mgs \$1.20; 1/4 oz \$6.10





# MINIATURE TYPE Golden Gem, Tagetes signata

Masses of tiny golden single flowers cover the compact mounded habit. Foliage is lacy. Good for bedding, window boxes or hanging baskets. Excellent border plant. Approx. 320 seeds/PKT; 9000 seeds/¼ oz.

#615 PKT 250 mgs \$2.40

#### MORNING GLORY, Heavenly Blue



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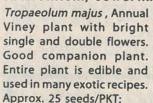


Ipomoea tricolor, Annual
Sky blue flowers that open in
the morning and fade by
afternoon. 12 foot long vines.
Approx. 30 seeds/PKT;
450 seeds/½ oz.

Flowering period: Summer or early autumn. Germination: Soak seeds in water 24 hours before planting. Germinates in 5-10 days at 70-75° F. Culture: Direct seed after last frost or sow indoors 6 weeks earlier. Enjoys full sun.

#618 PKT 1 gm \$1.20; 1/2 oz \$6.50

#### **NASTURTIUM, Jewel Mix**



200 seeds/oz.

Flowering period: Mid-late

Germination: 10-14 days at

70°F.

Companion plant: Radishes, cabbages, vine crops, fruit trees.

Deters aphids, squash bugs, striped pumpkin beetles.

Culture: Direct seed in early June, thin to 8 inches apart. Full sun.

#619 PKT 4 gms \$1.40; 1 oz \$2.00

#### NICOTIANA, Jasmine Scented

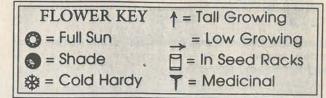
Nicotiana aztec, Annual

3 foot plants with abundant small white flowers. Sweet fragrance grows stronger in the evening. Attracts beneficial insects. Reseeds easily.

Approx. 1100 seeds/PKT; 4500 seeds/½ oz. Flowering Period: Summer. Germination: 10-20 days at 70-80° F. Needs light to germinate. Culture: Usually started indoors in flats 4-6 weeks before planting out after last frost. Barely cover seeds. Will reseed itself. Full sun, moderate water.

#620 ORGANIC PKT 100 mgs \$1.75





#### **PANSY, Swiss Giant**

Viola x wittrockiana, Annual

Popular bedding plant with characteristic dark faces on bright colored flowers on short 6 inch tall plants. Large flowered variety in a wide range of colors.

Approx. 60 seeds/PKT; 1150 seeds/1/16 oz.

Flowering period: Spring and summer. Germination: 65-70° F for 1-2 weeks. Culture: Sow in flats with a light covering of soil in February. Transplant 6 inches apart in early May after hardening off by gradual outside exposure.

#621 PKT 100 mgs \$2.30

#### **SWEET PEAS, Royal Mix**

OAH

Lathyrus odoratus, Annual

Climbing peas with large fragrant double flowers. Flowers for along time beginning mid-Summer. Keep picking to encourage



blooming. Well suited to cool areas, A mix of blue, scarlet, pink, and white. Approx. 60 seeds/PKT; 510 seeds/11/2 oz.

Flowering period: Summer/ Fall. Germination: 14 days at 55 ° F.

Culture: Sow near a fence or trellis 4 inches apart in late April. Sun to partial shade. Rich soils above 6.0 pH.

#624 PKT 5 gms \$1.50; 11/2 oz \$5.00

#### CALIFORNIA POPPY, Orange King

Eschscholzia californica, Annual Easy to grow, bright orange flower. Very tolerant of hot dry conditions. This California native makes itself right at home. Approx. 350 seeds/PKT;

9900 seeds/1/2 oz.

Flowering period: Summer and fall. Germination: 7-10 days at 60° F.

Culture: Sow in flats 5 weeks before transplanting after last frost, or direct seed in May. Thin to 6 inches apart. Will reseed itself. Full sun. Average soils.

#607 PKT 500 mgs \$1.20; 1/2 oz \$4.60

#### POPPY, Shirley Double

Papaver rhoeas, Annual

**CLARY SAGE** 

Salvia sclarea, Biennial

Large number of double flowers. Colors are pink and shades of red. 11/2 foot tall.

Approx. 1400 seeds/PKT; 50,000 seeds/1/4 oz.

Flowering period: Summer, Germination: 60° F for 10 days.

Culture: Direct seed in early May, Thin to 6-8 in. apart. Seeds are very small, helps to mix with sand to sow. Does not transplant. Average soils.

Beautiful plant with fuzzy 9 inch long leaves. Flowers the

second year with beautiful pink, lavender and blue shades with white. Flowers borne on 31/2 feet tall inflorescence.

fragrance; distinct scent.

Full sun. Dry, well drained soil.

#644 PKT 100 mgs \$2.00

Approx. 25 seeds/PKT.

Excellent cut flower. Used in perfume

Flowering period: Summer. Germination: 7-

10 days at 70° F with light. Normal germination

50%. Companion Plant: Rosemary, cabbage, carrots. Not cucumbers. Culture: Transplant

6-8 week old plants in May, or direct seed

when soil reaches 60°. Space 12 inces apart.

#623 PKT 200 mgs \$1.20; 1/8 oz \$7.50

# Flowers, Perennials & Biennials

#### ANISE HYSSOP

01

Agastache anethiodora, Perennial

Attractive lavender flowers borne on many spikes on 3 foot plants. The flowers are beautiful fresh or dried. Also used for

Approx. 200 seeds/PKT: 7500 seeds/1/8 oz.

Flowering period: Late summer. Germination: 7-21 days at 65-70° F. Culture: Direct seed in mid-April or transplant in May. Spacing 2 inches apart, thin to 1 foot apart. Full sun or partial shade. Welldrained alkaline soil.

#640 ORGANIC PKT 100 mgs \$3.20

# COLUMBINE, McKenna's Giant Mix

OAT

**Black Eyed Susan** Rudbeckia hirta, Biennial

Yellow petals with dark brown centers. 1 foot tall. Excellent for mass blooms in summer and for cutting. If planted early, will bloom the first year from seed. Also known as Gloriosa Daisy. Approx. 1800 seeds/PKT; 53,000 seeds/

Flowering period: Summer. Germination: 20 days at 70° F.

Culture: Sow indoors in early January. Set out after last frost. Full sun. Heat tolerant.

#642 PKT 1 gm \$2.70

Aquilegia vulgaris, Perennial Flowers of blue, white, red and yellow on 2-3 foot tall plants. Short spurs on flowers attract hummingbirds.

Approx. 140 seeds/PKT; 2500 seeds/1/8 oz.

Flowering period: Spring and early summer.

Germination: 3-4 weeks at 70-85° F. Chill seed at 40° for 4-5 days. Culture: Direct seed ¼ inch deep after last frost. Spacing is 10-15 inches apart. Moist loam, partial shade.

#645 PKT 200 mgs \$1.20



#### COREOPSIS, Double Mix

Coreopsis lanceolata, Perennial

Composite bright yellow flowers on bushy 2 foot tall plants. Excellent for perennial borders and not too particular about soils. Approx. 100 seeds/PKT; 2830 seeds/¼ oz.

Flowering period: Late summer to early fall. Germination: 14-21 days at 70° F. Culture: Plant in flats in April and transplant after last frost. Can also direct seed in August and transfer to cold frame or bring inside for overwintering. Full sun. Average to poor soils.

#646 PKT 250 mgs \$2.00

#### ECHINACEA, Perennial

This popular flower is well renowned for antibiotic and immune-boosting properties. All parts of the plant are used medicinally. Approx. 220 seeds/PKT; 7000 seeds/oz.

Flowering period: Summer. Germination: Freeze for 1 week. Needs light; 2-3 weeks at 70-75°F. Culture: Start indoors 4 weeks before

transplanting after last frost; or plant in the fall in flats left outside or directly into the soil. Space 2 feet apart. Can be propagated by root divisions. Will reseed itself. Sun, partial shade. Average soils.



#### Echinacea Purpurea

DOTT

2-4 foot tall plants produce

blossoms with purple rays surrounding large brown cones. #648 PKT 1 gm \$1.20; 1 oz \$5.50; ¼ lb \$20.00; 1 lb \$42.40 #643 ORGANIC 1 gm \$1.60; 1 oz \$10.50; ¼ lb \$34.00

### **Echinacea Angustifolia**

Native echinacea species with narrow leaves and smaller flowers than purpurea. Plants are 12-18 inches tall. **#649 ORGANIC** PKT 1 gm \$2.00; 1oz \$32.85; ¼ lb \$79.00; 1 lb \$316.00

#### **EVENING PRIMROSE**

Oenothera lamarkiana, Biennial

3-4 feet tall and covered with light yellow flowers. The leaves,



flowers and long tap roots are edible, and were eaten by Native Americans. Watch the flowers pop open as the sun sets. They smell heavenly. Native to much of the U.S. Will self-seed and can be invasive. Flowers attract beneficial insects! Approx. 500 seeds/PKT; 35,000 seeds/½ oz. Flowering period: June-August. Germination: 14 days at 70° F. Culture: Sow in flats 6 weeks before frost. Space 18 inches apart. Full sun. Blooms 2nd year.

#657 PKT 200 mgs \$1.80

FEVERFEW: see Herbs, page 36

### HOLLYHOCKS, Indian Spring

Alcea rosea, Biennial

Large pink, rose or white single flowers borne all along the stem of these 4 foot plants. Plant near a fence or wall for

support. Blooms the first season.

Approx. 90 seeds/PKT; 1270 seeds/½ oz.

Flowering period: Summer. Germination: 14-21 days at 60°F.

Culture: Plant in May when soil temperature reaches 60°F. Space 1 foot apart. Will reseed itself. Full sun.

#653 PKT 1 gm \$1.20



HOA

#### LUPINE, Russel's Prize Mix

Lupinus polyphyllus, Perennial Pink, rose, buff, bronze, rust, red and blue flowers borne on 2-4 foot spike. Bush plant with attractive deeply cut leaves. Very dramatic.

Approx. 40 seeds/PKT; 320 seeds/% oz. Flowering period: Late spring-summer. Germination: 14 days at 70-75° F. Culture: Direct seed in mid-July, trim back to prevent flowering the first year. Mulch heavily to overwinter; blooms the second year. Full sun. Moist, average, well-drained, low pH soils.

#655 PKT 1 gm \$1.40



### ICELAND POPPY, Gartford Giants Mix

Papaver nudicaule, Perennial
The familiar Iceland poppy. Delicate flowers are white, yellow,

gold, apricot, and orange. 12 inches tall. Approx. 600 seeds/PKT; 10,850 seeds/<sup>1</sup>/<sub>16</sub> oz.

Flowering period: Summer. <u>Germination</u>: 60° F for 10 days. <u>Culture</u>: Direct seed in early May. Thin to 6-8 in. apart. Seeds are very small, helps to mix with sand to sow. Does not transplant. Average soils.

#656 PKT 100 mgs \$2.15

#### PYRETHRUM, Robinson's Mix

Chrysanthemum coccineum, Perennial Large single flowers in a bright mix of red, pink, rose, and white shades. Excellent for cut flowers. Also a good natural insecticide. Approx. 120 seeds/PKT; 2250 seeds/1/s oz. Flowering Period: Early to mid-summer. Germination: 14-21 days at 60-65° F. Culture: Sow in flats March 1 and transplant after frost for June blooms. Direct seed in July. Space 10 inches apart. Full sun. #658 PKT 200 mgs \$1.90; 1/s oz \$11.25

# Wild Flowers

#### WILDFLOWER PLANTING INSTRUCTIONS

Site Selection: When choosing a site, consider:

- Does the site support plants now? If nothing is growing the site is unlikely to support wildflowers.
- 2) Will there be adequate moisture during germination? Can you supply additional water?
- 3) What weed seeds are likely to be present in the soil? The fewer weed seeds there are the more successful the planting will be.

When to Plant: Late fall or very early spring is best. The perennials in the mixes need to undergo several freeze/ thaw cycles to break the natural seed dormancy. Rocky Mountain and Xeriscape Mixes have more annuals in them and are more successfully planted later in the spring. The primarily perennial Montana Native Mix should be planted in November or March/April for necessary cold stratification.

<u>Seed Application</u>: It is helpful to mix 1 or 2 parts sand to 1 part seed for even distribution. Rake in lightly, covering seeds to a maximum depth of 2-3 inches, or drag the area lightly with a piece of chain link fence.

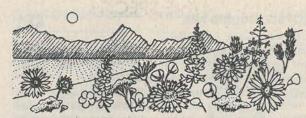
Mixing With Grasses: To create a natural meadow, prairie, or colorful lawn effect, the wildflower seeds can be mixed with bunch type grasses. A mix of at least 10% flower seeds to 90% grasses will give a good show of color. To maintain this planting, mow or burn the areas in the Fall. See NATIVE GRASSES page 31.

Moisture: Best results are obtained by soaking the area thoroughly and maintaining consistent moisture for 4-6 weeks if in an irrigated area. If in a non-irrigated area plant in fall or early spring before anticipated snow or rainfall. After seedlings are established, watering may be reduced. In arid regions ¼ inch of supplemental moisture per week may be needed to maintain optimum color.

<u>Fertilization</u>: Do not apply fertilizer because it will encourage weeds and leafy growth. Do add organic matter such as weed free grass clippings, well rotted compost, peat moss or leaf mold.

Weed Control: If wildflowers are planted in a weedy area there will be a large bank of weed seeds that will germinate. Weed control is achieved in two stages - initial clearing of the site and ongoing maintenance. If spring planted, allow the first growth of weeds to germinate and remove them before planting wildflower seed. Mixing the wildflowers with clover and fescue can help them compete with weeds. After wildflowers have germinated, further weed control is usually necessary. If practical pull, all weeds as soon as they can be identified.

<u>Maintenance</u>: Wildflowers may be mowed to a height of 4-6 inches in the Fall after seed set. Leave the residue on the ground as a reservoir of viable seeds.



#### **ROCKY MOUNTAIN WILDFLOWER MIX:**

Annuals/Perennials

Our best mix to provide color in the first year. Native and nonnative species that grow and reproduce with little maintenance after initial preparations. A mix of 21 different mountain wildflowers adapted to a range of growing conditions for long-lasting color, and selected for non-invasive habits.

Annuals: Blanketflower, Red Flax, Black Eyed Susan, Baby's Breath, Siberian Wallflower, California Poppy, Painted Daisy, Plain Coreopsis, Calendula, Dwarf Cornflower, Showy Goldeneye, Corn Poppy, Rocky Mountain Beeplant, Orange Mountain Daisy.

Biennials: Shasta Daisy, Dame's Rocket.

<u>Perennials</u>: Prairie Aster, Columbine, Lance Leafed Coreopsis, Rocky Mountain Iris, Silky Lupine, Blue Flax, Prairie Coneflower, Mule Ears, Perennial Gaillardia, Fringed Sage, Rydberg's Penstemon, Wasatch Penstemon, Rocky Mountain Penstemon, Alpine Penstemon, Aspen Daisy, Sulphur Flower.

<u>Seeding Rate</u>: PKT sows 100 square feet; 1 oz sows 400 sq feet. **#691** PKT 3 gms \$2.00; 1 oz \$7.00; ¼ lb \$12.00; 1 lb \$40.00

#### XERISCAPE WILDFLOWER MIX:



Perennial and Annuals for dry areas.

This is a mix designed for dry or sandy areas with low rainfall. This mix will work for a wide range of altitudes up to about 9,000 feet. Excellent for naturalizing difficult areas on south facing slopes, road cuts, or other dry problem areas. Once established, these plants will grow and prosper for many years.

Annuals: Arroyo Lupine, Rocky Mountain Beeplant, Baby's Breath, Cowpen Daisy, Annual Gaillardia, Prairie Aster, Clasping Coneflower, Red Flax, Siberian Wallflower, California Poppy, Baby Blue Eyes, Painted Daisy, Calendula, Dwarf Cornflower, Dame's Rocket.

<u>Perennials</u>: Blue Flax, Black Eyed Susan, Prairie Coneflower, Mules Ears, Utah Sweetvetch, Arrowleaf Balsamroot, Perennial Gaillardia, Wasatch Penstemon, Rocky Mountain Penstemon, Purple Prairie Clover, Silky Prairie Clover.

Seeding Rate: PKT sows 100 sq ft; 1 oz sows 400 sq ft.

#693 PKT 4 gms \$2.00; 1 oz \$7.00; 1/4 lb \$12.00; 1 lb \$40.00

#### MONTANA NATIVE WILDFLOWER MIX:



Mostly Perennials

Premier selection of native Montana flowers. The stand of flowers will be unique depending on your microclimate. This mix will look best in the second season after the perennials have become established. Patience is the key with all-native mixes as perennials take awhile to get established.

<u>Annuals</u>: Plains Coreopsis, Rocky Mountain Beeplant, Crownbeard Daisy. <u>Biennial</u>: Scarlet Gilia.

<u>Perennials</u>: Mountain Lupine, Silky Lupine, Blue Flax, Black Eyed Susan, Showy Goldeneye, Showy Fleabane Daisy, Sulphur Flower, Narrowleaf Paintbrush, Utah Sweetvetch, Prairie Sage, Fringed Sage, Arrowleaf Balsamroot, Columbine, Mountain Gaillardia, Pink Nodding Onion, Rocky Mountain Penstemon, Showy Locoweed, Silky Locoweed, Rydberg's Penstemon, Wasatch Penstemon, Fireweed, Scarlet Globemallow, Blue Flag Iris, Mule Ears, Orange Mountain Daisy.

Seeding Rate: PKT sows 30 sq ft; 1 oz sows 500 sq ft; 1 lb sows <sup>1</sup>/s acre. **#692** PKT 2 gms \$2.50; 1 oz \$12.00; ¼ lb \$28.00; 1 lb \$120.00

### INDIVIDUAL NATIVE SPECIES

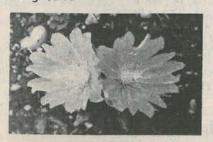
#### BITTERROOT

Lewisia rediviva, Perennial

These spectacular pink waterlily-like flowers magically spring from the soil after the succulent evergreen foliage disappears. The flowers are 2 inches across on low growing plants up to 3 inches tall. Valued by Native Americans for food and medicinal properties. Be careful not to overwater. Prefers poor sandy soils. This prized rock garden plant is the official state flower of Montana, Approx. 90 seeds/PKT.

Flowering period: Late May to early July. Culture: Plant in fall so seed can freeze, or place in freezer for 1-2 days before planting. Plant ½ inches. deep in dry area of ½ topsoil and ½ sand mixture. Bitterroot seedlings look like 2 green pine needles when they first appear. Sometimes they don't germinate the first year, but this is normal. May take up to 3 years to see blossoms. They're well worth the wait! When in bloom Bitterroots do NOT like much water. A fine mist in the morning or evening is plenty.

#694 PKT 200 mgs \$2.00



#### SCARLET GILIA

Ipomopsis aggregata, Biennial

Hummingbirds are attracted to the brilliant red trumpetshaped flowers of this plant. Produces a ferny rosette the first year and 1-2 foot tall flowering stems the second. This easyto-grow wildflower is frequently found on disturbed and erosive sites such as old road cuts and gravel bars; but it thrives in fertile soils. Approx. 150 seeds/PKT.

Flowering Period: Mid to late summer. Germination: 60 F. for 2-3 weeks with light.

Culture: Plant in spring. Can tolerate gravelly soil. Space 6-10 inches apart. Full sun and low water.

#695 PKT 200 mas \$3.00

#### GAILLARDIA

Gaillardia aristata, Perennial

Large daisy-like flowers in shades of gold and red on 21/2 foot tall plants. Will tolerate drought, poor soil, heat and cold. A Montana wildflower. Approx. 145 seeds/PKT; 2041 seeds/¼ oz.

Flowering period: July to September. Germination: 2-3 weeks at 70° F. Culture: Direct seed in early spring or propagate by root divisions after established in the garden. Likes full sun and light, sandy soils. Space 12 inches apart. Broadly adapted.

#652 PKT 500 mgs \$1.20;

1/4 oz \$40.00



#### GODETIA

Clarkia amoena, Annual

Excellent and easy to grow border plant. Profusion of very striking flowers completely cover plants. Height 12-16 inches. Dwarf single mixture; shades of pink, red, and lilac.

Approx. 2372 seeds/PKT; 27,970 seeds/¼ oz.

Flowering period: Mid to late summer.

Germination: 10 days at 55° F. Culture: Direct seed in May or sow in pots, lightly cover seeds with soil, pinch back tops, and transplant to garden 9-10 inches apart. Shady cool sites. Sandy, well drained soils. Excellent selfseeder. Blooms more abundantly if crowded.



#696 PKT 600 mgs \$2.65

#### **ROCKY MOUNTAIN PENSTEMON**

Penstemon strictus, Perennial

Penstemons are well adapted to high elevations. The flowers, borne on 2-3 foot stems, are a gorgeous lavender-blue in early summer, turning to deep purple when mature. They grow best in partial shade where summers are hot.

Approx. 1307 seeds/PKT; 9152 seeds/4oz.

Flowering Period: Summer. Culture: Seeds need cold stratification. Either plant outdoors in Fall or March/April, or place in moist potting soil in the refrigerator for at least 4 weeks. Prefers rocky and sandy loam and weakly acidic to alkaline soil. Space 10 inches apart. Full to partial sun and low water.

#698 PKT 1 gm \$3.35

#### **BLUE FLAX**

Linum lewisii, Perennial 11/2 foot tall plants with delicate sky blue flowers borne on gently arching stems. Seed pods may be used in dried arrangements. Approx. 647 seeds/PKT; 9059 seeds/1/4 oz. Flowering period: May-August. Germination: 5-14 days at 60° F. Culture:

Direct seed after last frost ¼ inch deep. Spacing 3-4 inches. Well drained soil, full sun. Good drought tolerance.

#650 PKT 1 gm \$1.20; 1 oz \$4.10; 1/4 lb \$6.50; 1 lb \$9.80

FLOWER KEY

↑ = Tall Growing

= Full Sun

\_ = Low Growing

= Shade

9 = In Seed Racks

樂 = Cold Hardy

T = Medicinal

To order: Phone (406) 961-4837 • Fax (406) 961-4877 • www.gardencityseeds.com

29

# Flowers, Everlastings

#### **BLUE GLOBE THISTLE**



Echinops ritro, Perennial

Bright blue, globe shaped flowers on a 4 foot tall plant similar to thistle but without the thorns. Very hardy honey plant. For dried flowers, cut and dry just before flower opens.

Approx. 10 seeds/PKT.

Flowering period: Late summer. Germination: 14-21 days at 70° F.

<u>Culture</u>: Direct seed in early May, thin to 1 foot apart. Sun or partial shade. Average soils.

#680 PKT 100 mgs \$2.40

#### BABY'S BREATH



Gypsophila elegans, Annual

3 feet tall. Small flowers in large rounded clumps; pure white. Upright habit. Approx. 150 seeds/PKT; 5400 seeds/½ oz. Flowering period: Mid-June to October. Germination: 10-12 days at 70° F. Culture: Direct seed in early May. Leave somewhat crowded in the bed. Full sun. Well-drained soil.

#679 PKT 400 mgs \$3.20

# STRAWFLOWERS, Tall Mix Helichrysum bracteatum, Annual

#684 PKT 100 mgs \$1.50

STATICE, Sinuata Mix

Limonium sinuatum, Annual

months. Approx. 30 seeds/PKT.



Excellent for dried arrangements. This old fashioned everlasting with 1 inch flowers is distinguished by its dry pointed calyx and corolla. 18 inches tall. Very colorful white, orange, yellow, and red. Best cut before yellow center shows. Remove stem and insert wire into heads.

Excellent for dried arrangements. Flower clusters, in shades of blue, pink, white, purple, and yellow, grow on long, strong stems. 30 inches tall. To dry simply hang upside down in a

shady place after flowers are fully open. Will last several

Flowering period: Late summer-autumn. Germination: 14-21 days

at 60°F. Culture: Start indoors seven weeks before last frost. Spacing

10 inches apart. Full sun; average well-drained soils.

Approx. 250 seeds/PKT; 7070 seeds/¼ oz.

<u>Flowering period</u>: Mid-late Summer. <u>Germination</u>: 2-3 weeks at 60° F.with light. <u>Culture</u>: Sow 8 inches apart after last frost or start indoors 6 weeks before. Full sun. Average, relatively dry soil.

#683 PKT 250 mgs \$1.70

# Garlic

Sow separated cloves with the root end down, 2 inches deep, 4-6 inches apart in rows 10-12 inches apart. Plant from late August to mid October. The colder the climate the earlier the garlic needs to be planted. In areas with harsh winters (e.g. Montana), it's safest to mulch the planting with 6 inches of straw for over-wintering. Leave mulch on in the spring. SOIL: Well-drained and rich in organic matter and major nutrients. pH from 5.5-6.8. PESTS: There are rarely any pests that bother garlic. Usually the primary problem is weeds. Keep on top of weeding throughout the season. The narrow leaves of garlic will not shade out weeds effectively. HARVEST: The correct time to harvest is when 6 green leaves are left after others have turned brown, usually mid- to late July. With Rocambole types, cut off central stalk after it extends to increase bulb size. Loosen soil with a digging fork. Shake off dirt and air dry bulbs out of direct sunlight for a month.

1 lb sows 20 feet; 5 lbs sows 90 feet.

#### "ROJA" SPANISH RED

Allium sativum, var. ophioscorodon

Gourmet garlic famous for flavor. Appetizing light color and easy to peel. This Rocambole (stiff-necked) type's stem curls elegantly during the growing season, forming a bulblet at the end. The stem uncurls when garlic is ready to harvest. Bulblets can be eaten or planted to form full bulbs in 2 years. Stores through December.

**#1531 ORGANIC** ½ lb \$5.50; 1 lb \$9.00; 5 lbs \$35.00; 10 lbs \$65.00

## FALL PLANTED GARLIC

SHIPPED STARTING SEPTEMBER 15th

#### INCHELIUM

.OT

Allium sativum, var. sativum
From Inchelium, Washington on
the Colville Indian Reservation.
We found this variety to size up
even larger than Dixon without
loss in flavor. This vigorous softnecked variety won a Rodale taste
test of 20 garlic strains. Dense
cloves store well.

#1532 ORGANIC ½ lb \$5.50; 1 lb \$9.00; 5 lbs \$35.00; 10 lbs \$65.00

# \$65.00

#### **DIXON STRAIN**

T

Allium sativum, var. sativum

First obtained from the Baty's in Dixon, Montana. Large
purple-blushed cloves, excellent for braiding and storage.

Soft-necked.

**#1530 ORGANIC** ½ lb \$5.50; 1 lb \$9.00; 5 lbs \$35.00; 10 lbs \$65.00

#### KILLARNEY RED

T NEW!

Allium sativum, var. ophioscorodon

From the Idaho farm with the same name, this variety is very similar to Roja, but superior in important respects. It generally sizes up larger than Roja and is more vigorous overall. Reported to also be better adapted to wet conditions than Roja. Good keeper with excellent Rocambole flavor.

#1533 ORGANIC ½ lb \$5.50; 1 lb \$9.00; 5 lbs \$35.00; 10 lbs \$65.00

Culture: Same as Winter Squash, page 56.
Pkt 4 gms.

## ORNAMENTAL GOURDS (Small Mixed): 95 days

Attractive early maturing types include APPLE, PEAR, NEST EGG, CROWN OF THORNS, and others. #541 PKT \$2.60



ORNAMENTAL GOURDS (Large Mixed): 100 days Large gourds include ITALIAN EDIBLE, LARGE BOTTLE, CALABASH, SYPHON, HERCULES CLUB, and LONG HANDLED DIPPER.

#540 PKT \$3.60

#### TRIATHALAWN TALL FESCUE LAWN BLEND

Fescue is a bunch grass with deep roots, so it requires about half as much water as Bluegrass. It establishes quickly and competes well with weeds and other grass species. TRIATHALAWN has heat, shade and wear tolerance, for a healthy, environmentally friendly lawn. Not intended as a pasture grass. Plant at 12 lb per 1000 square feet. Cover seeds with a thin layer of soil; when seedlings reach 4 inches mow back to 2 inches. Plant in May or late September and early October.

#1052 1 lb \$3.75; 5 lbs \$12.00; 10 lbs \$21.00; 50 lbs \$88.00

#### DRYLAND TURF MIX

Widely adapted mix of sod forming grasses that are perfect for rough or well drained areas or for a low maintenance lawn that will receive less than 15 inches of rain per year. 35% Hard Fescue, 20% Fairway Crested Wheatgrass, 20% Sheep Fescue, 15% Canada Bluegrass, 10% Sodar Streambank Wheatgrass. 1 lb per 1,000 sq ft, 45 lbs per acre

#1051 1 lb \$10.00; 5 lbs \$41.00; 10 lbs \$70.00

# NATIVE GRASS

#### DRYLAND NATIVE GRASS MIX

This mix of perennial grasses is adapted to a wide range of soils, from coarse to fine textured, and is drought tolerant. Contains: 29% Western Wheatgrass, a sod-forming grass of the valleys and foothills of the Rockies with blue-green foliage; 18% Streambank Wheatgrass, a drought tolerant sod former; 18% Bluebunch Wheatgrass, a long lived, early growing bunchgrass; 34% Sheep Fescue, described below. 1 lb per 1000 sq ft, 15 lbs per acre if drilled; 45 lbs per acre broadcast. #1050 1 lb \$20.00; 5 lbs \$85.00; 10 lbs \$153.00

#### SHEEP FESCUE

Long-lived perennial bunch grass whose extensive root system makes for excellent drought tolerances. Needs only 10-12 inches of moisture per year. Fine bladed, low growing grass is quite attractive in combination with wildflowers. Can be used as a drought tolerant native lawn but needs to be weeded as it is not an aggressive sod former.

1 lb per 1,000 sq ft (increase to 5-6 lbs for lawn areas), 45 lbs per acre (200 lbs Lawn.)

#1055 1 lb \$8.50; 5 lbs \$34.00; 10 lbs \$58.00

# Gourds

### BOTTLE/BIRDHOUSE GOURD: 120 days

Species cultivated since before recorded history for use as drinking vessels, this variety produces attractive green/tan gourds 12-14 inches high and 5 inches wide. Great for crafts like making rattles, bowls, and birdhouses. Long season species makes it in our climate because of our long day length in the summer, but it is very important to start indoors and make use of micro-climates and techniques to maximize warmth. Harvest when gourds whiten and cure in warm, dry place with space between each gourd until hard.

#542 PKT \$2.50

# Grasses

Grasses need a fine weed-free seed bed that is firm enough so that foot prints only sink in about ½ inch. Seed should be planted not more than ½ inch deep, and the upper layer of soil should be kept moist for 2 weeks. A thin layer of straw helps to maintain soil moisture. The TRIATHALAWN, other lawn grasses, and the Pasture Mixes should be planted in May. The Native grasses can be planted in the early spring or Fall. These species are recommended for Montana. Check with your Extension Service for applicability to your area.

# PASTURE MIXES

#### GARDEN CITY SEEDS PASTURE MIX NB

Non-bloating mix excellent for ruminant animals. 50% Napier Orchard (earlier maturing, very winter hardy, upright tillering bunchgrass), 30% Regar Meadow Brome (sod forming brome, quick germinating variety, doesn't get sod bound quickly so lit's ideal with a grass legume mix), 15% Remont Sanfoin (short-lived, non-bloating legume, establishes quickly), 5% Birdsfoot Trefoil (slow-establishing, non-bloating legume, takes over after Sanfoin dies out. Long lived; reseeds; better nutritive value than alfalfa.) This mix is also a good choice for less well-drained pastures.

15 lbs per acre if drilled; 45 lbs per acre broadcast.

#1053 1 lb \$5.30; 5 lbs \$21.00; 10 lbs \$ 36.00; 50 lbs \$155.00

#### GARDEN CITY SEEDS PASTURE MIX

Similar as above mix, with 50% Napier Orchard, 35% Regar Meadow Brome, and 15% Spedor 3 creeping alfalfa, which is a vigorous, rapidly regrowing and disease resistant variety. Excellent mix for horses. Not completely non-bloating like NB mix, though low growth habit of alfalfa diminishes this risk. Alfalfa makes this mix more drought tolerant than NB mix. 15 lbs per acre if drilled; 45 lbs per acre broadcast.

#1054 1 lb \$5.80; 5 lbs \$23.00; 10 lbs \$39.00; 50 lbs \$165.00

# Oriental & Exotic Greens

These varieties are cold tolerant. They add flavor and nutrition to regular green salads. Plant as soon as the ground thaws. They also stay in the garden long after spinach has bolted.

SEASON: Cool season; hardy to light frost, generally sow 2-4 weeks before last frost. Sow annuals every 2 weeks until mid-July.

MIN. SOIL TEMP: 40° F. SOIL: Rich, slightly acid pH 6.0-6.8. COMPANION PLANT: Most vegetables and aromatic herbs. PESTS: APHIDS: Control with beneficial insects or with soap sprays. FLEA BEETLES: Control with wood ash, agricultural lime, pyrethrum, row covers, beneficial nematodes, OR diatomaceous earth. SEED SAVING: After bolting, allow seed pods to turn brown. Cut and dry further until pods shatter easily. Screen and winnow off chaff. Store cool and dry.

### **ORIENTAL GREENS**

SHANGHAI PAK CHOI: 50 days

Brassica rapa, Chinensis Group

Wider stems than CHINESE PAK CHOI, but quite tender. Heat resistant variety is more suited to mid-summer growing. #272 PKT 1gm \$2.60

#### CHINESE PAK CHOI: 60 days

Brassica rapa, Chinensis Group

Our best selling green for stir-fry. Compact growth with bright white stalks. Mild mustard-like flavor is bitter free. Sow every 2 weeks through mid-summer; earliest into and latest out of the garden.

#271 PKT 1 gm \$1.30; 3 gms \$3.40; 1 oz \$12.90

### **CRESS**

WATERCRESS: 50-180 days

Rorrippa nasturtium, var. aquaticum

Hardy perennial with peppery tasting leaves. High in calcium and vitamins. Grow near a pond, stream, or even under a leaky faucet.

<u>CULTURE</u>: Direct seed ½ inch apart, ¼ inch deep, thin to 4 inches apart, or start indoors, making sure soil is moist. Needs fertile soil with pH around 7.

#264 PKT 1 gm \$2.90

#### **CURLY CRESS: 14 days**

Lepidium sativum

Very popular green, ready in as little as 10 days. Also called peppergrass to describe its spiciness. Dark green, finely curled leaves attractive in salads. Trim back to grow new shoots when 2 inches tall or sow thickly every 10 days. Can be easily grown indoors and used for sprouts. Reseeds itself for supply in first spring.

#265 PKT 1 gm \$2.20; 1 oz \$7.20; ¼ lb \$23.00; 1 lb \$30.00

### **EXOTIC GREENS**

GARDEN SORREL, Rumex acetosa, Perennial

One of the first greens to appear and the last to leave. Has a delicious lemony/peppery flavor, comes back early in the spring the second year. Kids **love** the tart taste. Keep stalks trimmed back to encourage continued leaf growth. Direct seed in spring. Thin to 8 inches apart in rows 12-18 inches apart.

#750 PKT 300 mgs \$1.20; 1/4 oz \$3.15

## ARUGULA, Rocket "California Select": 55 days

Eruca sativa

This gourmet salad green thrives in cool weather. If left to reseed, it becomes one of the first greens of spring. Oakleaf-shaped leaves grow in a loose bunch and taste peppery when mature. Flowers add garnish and flavor to salads, also. Grows wild in southern France and Italy.

**#274** PKT 1 gm \$1.20; 3 gms \$2.50; 1 oz \$5.30; 1/4lb \$13.30 **#275 ORGANIC** PKT 1 gm \$2.50; 3 gms \$6.30; 1 oz \$11.00

### ENDIVE, Tres Fine Maraichere: 45 days

Cichorium endivia

Very early summer harvested variety most often found in salad mixes as finely cut white blanched leaves with a mild,

slightly bitter taste. Adds just the right amount of texture and bite to lettuce salads. Plant like lettuce; close spacing of 8-10 inches promotes some self blanching. For complete blanching, pull up outer leaves and tie together with a rubber band.

#263 PKT 1 gm \$2.10



## ORACH

Atriplex hortensis

Orach flavor is mild, similar to spinach, without much oxalic acid. Stays mild as plants bolt. A great hot weather spinach substitute. Pinch plants back to encourage leaf production. Will readily self-sow. Our seed is dehulled and unviables are removed. Sow ½ inch deep, 4-6 inches apart in rows 12 inches apart. Deep bed spacing 6 inches apart. Plant 4-6 weeks before last frost. Plant until mid July.

PKT 1 gm 150 seeds.

#### **GREEN ORACH: 37 days**

m an old

Same as red except dark green in color. Obtained from an old Idaho gardener named Strawbottom and then grown by sheep ranchers by the name of Wolfe.

#268 ORGANIC PKT \$2.50; 3 gms \$4.00; ½ oz \$10.90

#### **RED ORACH: 37 days**



Obtained from a friend in Dillon, Montana. This green, a favorite with homesteaders, was found growing semi-wild in Bannock, the old Montana state capital. Deep red-colored spinach-shaped leaves. We have rigorously maintained the brilliant red color of this variety which is rare in common RED ORACH.

#269 PKT \$2.50; 3 gms \$4.50; ½ oz \$15.50

### **MUSTARD**

Direct sow 10 seeds per foot in rows 18 inches apart. Thin to 6 inches. Plant in April- June. Minimum soil temperature 50 F.

#### MIZUNA: 40 days

Brassica japonica

Ornamental edible mustard with deeply cut leaves and mounding habit. Leaves are outstanding in salads. This slow bolting mustard keeps producing when cut and stays



mild. Flavor is rich when cooked; freezes well, stem and all.

#261 PKT 1 gm \$2.50; 3 gms \$6.00; 1 oz \$10.00

#260 ORGANIC PKT 1 gm \$3.25; 3 gms \$8.00

#### **RED GIANT: 45 days**

A full-flavored mustard. Dramatic purpletinted leaves with green midribs add color and zest to salads and sandwiches. Can begin harvest at 6 inches by picking outside leaves.



**#262** PKT 1 gm \$1.50; 3 gms \$4.00; 1 oz \$16.00

#266 ORGANIC 1 gm \$3.00; 3 gms \$7.40

## **CORN SALAD**

Valerianella locusta

Sow thickly in rows 6-8 inches apart, ½ inch deep, and thin to 2 inches. Plant this cool season green in early September for spring harvest, early spring for late spring harvest and in mid-July for fall harvest. It grows well in rich, slightly acid soil and gets along well with corn. It was traditionally planted with corn in Europe. It is very tasty, rich in vitamins and mineral salts, will overwinter if properly mulched and will often reseed itself. PKT 1 gm 1300 seeds, sows 60 feet.

#### VERTE DE CAMBRAI: 65 days

Especially cold-tolerant refined French cultivar. Overwinter and harvest perfect baby rosettes very early in spring. Delicate, sweet, nutty flavor compliments stronger, tart greens in salad mixes.

#276 PKT \$1.30; 7 gms \$6.50

# **AMARANTH**

MERAH: 40 days

Exellent to provide dark red/maroon color for your salads. Good color when only 2 inches long, ideal for the baby green growers. Tasty leaves wilt slowly and add texture to your salads. Attractive burgundy Amaranth heads, useful for cut flowers, when allowed to bolt. Will get 5-6 ft. tall if allowed. White, culinary quality seeds.



#259 ORGANIC PKT 500 mgs \$3.00;

1/4 oz \$7.50; 1 oz \$17.00

#### OPOPEO: 90 DAYS

Amaranthus cruentas, Annual

This vigorous and versatile variety produced seed in 1993, the coldest summer on record in Montana! Good for early season greens. The seed is white and tasty ground for flour or popped. The vigorous plants grow 7 feet tall and have a maroon central plume that is quite striking for dried flowers. #1019 ORGANIC PKT 500 mg \$2.10; ¼ oz \$9.00; 1 oz \$24.00

# Exotic Greens and Mustards

See LOVAGE, page 36 for another specialty green.

### **FENNEL**

Plants are 2 feet tall with feathery foliage that's great in salads. Direct seed 10 seeds per foot in rows 18 inches apart. Thin to 6 inches. Sow in late April to early May. The best soil has a pH of 5.5-6.5 and is well drained and irrigated.

PKT 1 gm 200 seeds, sows 16 feet; 1 oz sows 500 feet.

#### **ZEFA FINO: 65 days**

Foeniculum vulgare var. azoricum

Grown for its anise flavored bulb, a specialty in Europe. Select European strain, slow to bolt and therefore successful in forming bulbs when sown in spring. Bulbs are tender and large. Foliage is tasty, too.

#278 PKT \$2.80

#### **BRONZE FENNEL: 45 days**

Foeniculum vulgare var. nigra, Tender perennial

1-2 foot plants with coppery tinged foliage. An ornamental edible, leaf tips are attractive and tasty in salads. Seeds are used for seasoning and as a soothing tea.

#280 ORGANIC PKT 500 mgs \$2.35;

3 gms \$8.00



# RADICCHIO/CHICORY

Cichorium intybus

Sow seeds 6 per foot in rows 18 inches apart. Deep bed spacing is 8-10 inches. Plant when soil can be worked 4-6 weeks before last frost and every 2 weeks until mid July. Likes weakly acid soils, pH around 6.0, and grows well with carrot, radish, strawberry and cucumber. Don't overfertilize; rotate crops and use beneficial insects or soap sprays to control pests. The red chicories are known as radicchio. They are unusually well suited to our climate, because they grow well in areas with cool nights and are best eaten after a hard frost. Keeps well through the fall when mulched.

<u>Seed Saving</u>: Cross-pollinated biennial. Heavily mulch or dig up and store at least 64 roots. Replant in spring. Break up seed pods when seeds are firm and dry. Winnow and store cool and dry.

PKT 250 mgs 180 seeds, sows 15 feet.

#### **CARMEN: 75 days**

Quick maturing crimson headed variety with white veins. Sizes up quicker than many radicchios and is larger (9 ounces) than GUILIO, which it replaces. Radicchios are notoriously variable, but Carmen regularly produces 60% marketable heads.

#279 PKT \$1.50; 3 gms \$8.30

# Herbs

# BASIL

01

Ocimum basilicum, Annual

These fragrant varieties spice up all kinds of dishes. Make your own fresh pesto! Plants are ornamental as well as edible. Pinch flowers back for a bushy plant.

Propagation: Seeds. Germination: 7-14 days at 60° F. Normal germination 60%. Companion Plant: Tomatoes. NOT Rue. Culture: Plant in flats 6 weeks before transplanting 6-12 inches apart. Warm weather plant; should be transplanted around the same time as you set out tomatoes and peppers. Intolerant of frost.

#### LETTUCE LEAF BASIL,

Mammoth Basil Larged leaved basil with broad slightly savoyed leaves. Preferred by market growers.

Approx. 380 seeds/Pkt; 5500 seeds/¼ oz.

**#708** PKT 500 mgs \$1.90; ¼ oz \$3.90



#### ITALIAN LARGE LEAF BASIL





Large dark green sweet basil with uniform broad leaves. Great variety for market. Plant plenty for pesto! Slow bolting. Approx. 300 seeds/Pkt; 18,000 seeds/oz.

#702 PKT 500 mgs \$1.20; 1 oz \$2.00; ¼ lb \$6.70 #723 ORGANIC PKT 500 mgs \$1.60; ½ oz \$4.50; 1 oz \$6.60

#### SIAM QUEEN BASIL

Developed in Thailand for the native cuisine, Siam Queen is excellent in various Asian dishes with its spicy, anise (licorice) scented leaves. 3-4 inch leaves are larger than most spice basils. Red-purple stems and pink-violet leaves are quite ornamental and especially nice for containers. AAS 1997

Approx. 100 seeds/Pkt. **#703** PKT 100 mgs \$2.00



#### **PURPLE RUFFLES BASIL**

.0

Ruffled purple leaves are much larger than OPAL BASIL. Plant is compact and flowers late to maximize leaf yeild. Sweet Scent. Pink flowers. AAS 1995.

Approx. 100 seeds/Pkt; 1250 seeds/¹/16 oz. #710 PKT 100 mgs \$2.50; ¹/16 oz \$6.00

#### SPICY GLOBE BASIL

Attractive ornamental grows in almost a complete oval with smaller leaves than sweet basil. Excellent for borders. Grows well in pots to liven up those winter salads. 6 inch diameter plant. Approx. 70 seeds/Pkt; 1250 seeds/'/16 oz. #704 PKT 100 mgs \$2.00



#### LEMON BASIL

Pleasant lemon fragrance and flavor. Great with fish. Approx. 330 seeds/Pkt; 9500 seeds/½ oz. #706 PKT 500 mgs \$1.60

#### **BLESSED THISTLE**

Cnicus benedictus, Annual

Large attractive thistle like plant with hairy (not bristly) lime green leaves and red stems. Spiky yellow flowers at the apical of the whorl shaped plant. Used medicinally as digestive aid and general tonic.

Approx 50 seeds/PKT; 800 seeds/oz.

Propagation: Seeds and Starts Germination: 7-21 days at 70° F. Culture: Direct seed in early May or transplant after frost danger. Space 24 inches apart. Full sun.

#705 ORGANIC PKT 50 seeds approx. \$2.50

# CALENDULA, Resina

TNEW!

Calendula officinalis, Annual
Bright yellow flowers with a few scattered orange blossoms. Selected for high resin content, better for use in salves and poultices.

Approx. 125 seeds/PKT; 3500 seeds/oz. Flowering period: summer and fall. Germination; 7-14 days at 60 F. Culture: Sow in flats 5 weeks before transplanting after last frost or direct seed in May. Thin to 10-12 inches apart. Reseeds itself abundantly. Full sun; average soils.

#709 ORGANIC PKT 1 gm \$2.00



#### BORAGE

Borago officinalis, Annual

Deep blue flowers, great in salads. A 2 foot tall plant with fuzzy gray-green leaves.

Approx. 50 seeds/Pkt; 750 seeds/½ oz.

Propagation: Seeds. Germination: 7-14 days at 75° F.

Companion Plant: Tomatoes, squash, and strawberries. Deters tomato hornworm. Culture: Direct seed after frost danger. Space 15 inches

apart. Sun, partial shade; relatively dry, poor soils.

#712 PKT 1 gm \$1.65; 1/2 oz \$7.10

#### HERB KEY

↑ = Tall Growing

O = Full Sun

→ = Low Growing

= Shade

M = In Seed Racks

数 = Cold Hardy

T = Medicinal

#### CATNIP

Nepeta cataria, Perennial

Mint family member that will rapidly spread, grows 4-5 feet tall. Makes a relaxing tea for humans. Cats love it! Approx. 840 seeds/Pkt; 12,000 seeds/¼ oz.

Propagation: Seeds and cuttings. Germination: 7-21 days at 70° F. Normal germination 40%. Companion Plant: Deters flea beetles. Culture: Direct seed in April and thin to 15 inches apart or start indoors and set out in 4-6 weeks.

#711 PKT 500 gms \$1.35; 1/4 oz \$6.00

#### CHAMOMILE CHAMOMILE, GERMAN

**大会** 

Matricaria chamomilla, Annual

Grown for its tiny daisy-like yellow and white flowers that make a delicious, soothing tea. Prolific; encouraged by harvesting (bet you can't pick 'em all). Plants grow up to two feet tall. Easily reseed themselves. Can be invasive in certain locales. Consult your local weed board.

Approx. 1060 seeds/Pkt; 37,500 seeds/1/8 oz.

Propagation: Seed. Germination: 5-10 days 70° F. Needs light to germinate. Companion Plant: Cabbage and Onions.

Culture: Direct seed when soil has reached 70°, thin to 3 inches apart. Sun, partial shade. Moist, well drained soil.

#### Common

#720 PKT 100 mgs \$1.20; 1/8 oz \$4.90

#### Bodegold

NEW!

Improved variety with larger blossoms than Common and higher essential oil content.

#743 ORGANIC PKT 100 mgs \$2.00

### CHAMOMILE, ROMAN



Anthemis nobilis, Perennial

Grows in a ferny mat 3 inches high with flowers rising to 1 foot. Flowers are similar to German Chamomile. Approx. 620 seeds/Pkt.

Propagation: Seeds and root divisions. Germination: 10-30 days at 60° F. Normal germination 40%. Companion Plant: Cabbage and onions. Culture: Direct seed when soil has reached 70° F, thin to 3 inches apart. Sun, partial shade. Moist, well drained soil.

#722 PKT 100 mg \$ 1.70

# CILANTRO, Leisure Slow Bolting



Coriandrum sativum, Annual

A slow-bolting variety of Coriander that produces lush vegetative growth. Also called Chinese Parsley. The greens are used in Mexican and Chinese cooking. Gives salsa authentic flavor. 2 feet tall. Seeds are CORIANDER, used for culinary purposes.

Approx. 200 seeds/Pkt; 2200 seeds/oz. Propagation: Seeds. Germination: 1-2 weeks at 55° F. Culture: Direct seed as soon as soil reaches 55° F. Do successive plantings throughout the summer. Water regularly. Normal soil; full sun to partial shade. Avoid transplanting.

#730 PKT 2.5 gms \$1.20; 1 oz \$3.45; 1/4 lb \$5.65 #719 ORGANIC PKT 2.5 gms \$1.60; 1 oz \$11.50; 1/4 lb \$19.00

#### CHIVES

Approx. 400 seeds/Pkt; 5750 seeds/4 oz, 15,000/1/2 oz. Propagation: Seeds and root divisions. Germination: 1-2 weeks at 70° F. Culture: Direct seed, thin to 5 inches apart. Start in flats by planting thickly and growing for 4-6 weeks before transplanting.

#### CHIVES

Allium schoenoprasum, Perennial

Sun, partial shade. Moist, rich soil.

Thin, round leaves widely used in soups and sauces. Grows in clumps reaching up to 12 inches high with lavender flowers in mid-summer. Plants can be potted and moved indoors to provide a fresh supply when cooking.

#726 PKT 500 mgs \$1.20; 1/2 oz \$14.00

#727 ORGANIC PKT 500mgs \$1.60; 1/2 oz \$16.00

#### **GARLIC CHIVES**

Allium tuberosum, Perennial

Also called Chinese Leeks. Beautiful white flower heads. Resembles regular chives except that its leaves are shiny and flat. Good strong garlic flavor, delicious in salads and stirfry cooking.

#728 PKT 500 mgs \$1.30; 1/4 oz \$4.80

#721 ORGANIC PKT 500 mgs \$3.00; 1/4 oz \$14.00

#### DILL

Anethum graveolens, Annual

Harvest "dillweed" while bright green. Cut in mid-summer for fresh use or dry for later. Harvest umbel-shaped flowers in mid to late summer when seeds have formed. A must for your home-made pickles. Makes attractive border and fill-in plant. Propagation: Seeds. Germination: 14 days. Normal germ. 60%. Companion Plant: Cabbage. NOT carrots. Culture: Direct seed in late May and thin to 6 inches apart. Full sun; average, well-drained soil. Will reseed itself.

#### FERN LEAF DILL

● ● ↑ ※

Short growing (18 in.) and abundant producer of "dill weed." The ferny leaves are used for flavoring. High bolt resistance keeps up production of leaf green for repeated harvest. Great for limited space. AAS 1992.

Approx. 80 seeds/Pkt; 6000 seeds/1/2 oz. #734 PKT 200 mgs \$1.30; 1/4 oz \$14.00

#### **DUKAT DILL**

A dark green erect variety that produces a high yield of green dill, umbels, and seed. High essential oil content of .4%. Approx. 1855 seeds/Pkt; 21,00 seeds/1 oz. #735 PKT 2.5 gms \$1.40; 1 oz \$6.40; 1/4 lb \$20.00

#### **BOUQUET DILL**

NEW!

Earlier blooming than MAMMOTH with large seed umbels and dark green foliage.

#718 ORGANIC PKT 2.5 gms \$1.50; 1 oz \$13.90

#### MAMMOTH DILL

A tall species of dill which produces a moderate amount of aromatic greens and flavorful seeds. Abundant self-seeder. Approx. 1000 seeds/Pkt; 48,000 seeds/¼ lb. #736 PKT 2.5 gms \$1.20; 1 oz \$5.00

# Herbs

#### **EPAZOTE**

10

Chenopodium ambrosioides, Annual

Spice for traditional Mexican bean dishes. Takes away gas and aids digestion. Vigorous grower: gets huge (4 feet tall) in Montana. Approx. 3200 seeds/Pkt.

<u>Propagation</u>: Seed. <u>Germination</u>: 7-14 days 70°F, Normal germination 60%. <u>Culture</u>: Direct seed in May, thin to 6-12 inches apart and stand back. Full sun, slightly acid, moderate fertile soils.

#737 PKT 500 mgs \$1.20

#### FENUGREEK

T

Trigonella foenum-graecum, Annual

Grown for its maple scented seeds used for sprouts and in curry. Leguminous foliage and clover-like white flowers. Can be used as a cover crop legume. Reputed to aid digestion, detoxifying, and cholesteral lowering. 200 seeds/Pkt; 2550 seeds/oz.

<u>Propagation:</u> Seeds. <u>Germination:</u> 7-14 days at 50° F. <u>Culture:</u> Direct seed in April . Space 4 inches apart. Full Sun. Legume will grow in soils with low nitrogen.

#739 ORGANIC PKT 2.5 gms \$2.05; 1 oz \$5.00; ½ lb \$15.50; 1 lb \$19.00

#### **FEVERFEW**

Chrysanthemum parthenium, Perennial

Daisy-like flowers, white with yellow centers 1 inch across, borne in prolific clusters; great for bouquets. The strong-scented plants have powerful medicinal properties.

Flowering period: Summer.

Germination: 10 days at 70-75 F.

Culture: Direct seed as soon as ground can be worked in spring or start indoors 4-6 weeks before transplanting in mid spring. Needs light to germinate if started indoors. Space 6 inches apart. Also propagated by root divisions. Sun,

partial shade. Average soils. #651 ORGANIC PKT 100 mgs \$1.60; 2 gms \$7.60

HOREHOUND

T NEW!

Marrubium vulgare, Perennial

Hardy and drought tolerant herb has gray/green leaves and fuzzy flower spikes. Used as a flavoring for honey and candies and by herbalists for digestive and upper-respiratory infections. Makes a nice tea. Approx. 200 seeds/Pkt; 23,000 seeds/oz.

PROPAGATION: Seeds and Root Division. Germination: 7-21 days at 50-60 F. Normal Germination 60%. Culture: Not particular. Direct seed in the mid-spring (April) or in flats and transplant when convenient. Thin plants to 12 in. apart. Likes full sun and tolerates well-drained soils.

#733 ORGANIC PKT 250 mgs \$2.00

#### HYSSOP

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Hyssopus officinalis, Perennial

Bushy medicinal herb with attractive pink or purple flowers and glossy dark green foliage on 2 foot plants. Bees like it. Approx. 260 seeds/Pkt.

Propagation: Seeds, cuttings, and root division. Germination: 2-3 weeks at 70°F. Normal germ. 50%. Companion Plant: Cabbage, grapes. Deters cabbage moth. Culture: Start in flats 4-6 weeks before transplanting in early May. Direct seed when soil temp. is 60° F. Mulched to overwinter. Full sun. Well-drained, alkaline soil.

#738 PKT 300 mgs \$1.70

# LA Lat

#### LAVENDER

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Lavandula angustifolia, Tender Perennial Old fashioned scent is famous for its use in sachets (that repel moths) and potpourri.

Approx. 80 seeds/Pkt; 5750 seeds/¼ oz. <u>Propagation</u>: Seed requires dark to germinate. <u>Germination</u>: 14 days at 70° F.

Normal germination 55%. <u>Culture</u>: Start indoors and transplant to light, well-drained soils. Must be mulched to overwinter or bring indoors.

**#740** PKT 100 mgs \$1.20; ¼ oz \$7.30 **#717 ORGANIC** PKT 100 mgs \$2.20; ¼ oz \$15.00

#### **LEMON BALM**



Melissa officinalis, Perennial

A lemon scented mint excellent for salads, soups, and tea. Bushy spreading plant reaches 2 feet tall. Likes water and space. Approx. 300 seeds/Pkt.

Propagation: Seed, cuttings and root divisions. Germination: 7-21 days at 70-85° F. Normal germination 60%. Culture: Direct seed after soil reaches 60° F or transplant 4 week old plants in late May. Sun, partial shade. Moist, rich soil. Must be mulched to overwinter.

#742 PKT 200 mgs \$1.20



#### LOVAGE

●↑樂

Levisticum officinale, Perennial

Celery-like plant that grows up to 6 feet tall. Leaves and stems are great in soups. One of the first greens to eat in the spring. One plant provides a lot. Good for "edible landscaping." Approx. 150 seeds/Pkt.

Propagation: Seed. Germination: 14-21 days at 70°F. Needs light. Normal germination 50%. Culture: Direct seed when soil reaches 60°F or transplant 4-6 week old plants after last frost. Space 3 feet apart. Sun, partial shade. Moist, slightly alkaline soils.

#744 ORGANIC PKT 500 mgs \$1.60; 1/2 oz \$6.00

Echinacea: see flowers, page 27

#### MARJORAM



Origanum marjorana, Tender Perennial

A tender perennial that doesn't survive our winters. The leaves are used in vinegars, soups, salads, dressings, roast lamb and tomatoes. Keep trimmed back for more leaves. Approx. 840 seeds/Pkt; 30,000 seeds/ 1/4 OZ.

Propagation: Seeds, cuttings. Germination: 14 days at 60°F. Normal germ. 50%. Culture: Start indoors 6 weeks before

transplanting in May. Full sun; alkaline, moist soils.

#746 PKT 200 mgs \$1.20; 1/4 oz \$8.75

#716 ORGANIC PKT 200 mgs \$2.40; ¼ oz \$18.00

#### MILK THISTLE

Silybum marianum, Annual

Large thistle plant is a striking ornamental with mottled white and green leaves and a large bull thistle like purple flowers at top of central spike. Can get 4 feet tall. Entire plant is edible and seeds are reputed to have liver health benefits. Approx. 50 seeds/Pkt; 1100 seeds/oz.

Propagation: Seeds. Germination: 7-14 days at 60° F. Culture: Direct seed in April or in September. Will reseed. Space 24-36 inches apart. Full Sun.

#700 ORGANIC PKT \$1.70; 1 oz \$8.45; 1/4 lb \$19.60; 1 lb \$50.00

#### OREGANO, Greek

Origanum spp., Perennial

This has the true Oregano flavor, unlike the "Origanum vulgare" with purple flowers sold by some companies. Use the leaves in chili, tomato sauce, meats, and pizza. White flowers. Approx. 1000 seeds/Pkt; 18,750 seeds/1/16 oz. Propagation: Seeds and cuttings. Germination: 14-21 days at 70° F. Normal germination 50%. Culture: Sow 4-6 weeks before transplanting in May, or direct seed when soil temperature reaches 70° F. Space 8-12 inches apart. Full sun. Well drained average soil. Will winter over in mild areas of Montana if mulched.

#751 PKT 100 mgs \$1.20; 1/16 oz \$12.50

#715 ORGANIC PKT 100 mgs \$1.60; 1/16 oz \$16.20

#### PENNYROYAL

Mentha pulegium, Perennial



Aromatic member of the mint family. Used for medicinal (never if pregnant!) and insect repellent purposes. Good as a ground cover or border planting. 6-12 inches tall.

Approx. 350 seeds/Pkt; 6250 seeds/1/16 oz.

Propagation: Seeds and cuttings. Germination: 14-21 days at 65° F. Culture: Transplant 6-8 week old plants in May, or direct seed when ground temperature reaches 60°F. Full sun to partial shade, moist soils.

#752 PKT 100 mgs \$1.80

#### PARSLEY

Biennial

Propagation: Seeds. Germination: 14-21 days at 75-85° F. Normal germ 60%.

Companion Plant: Tomatoes, asparagus. Culture: Sow thinly in the spring, 1/4-1/2 inch deep in rows 12-18 inches apart. Deep bed spacing 4 inches. Cool season. Plant 2-4 weeks before last frost. Slightly acid soil pH 6.0-6.8.

Seed Saving: Cross-pollinated, biennial. Will cross with other varieties. Overwinter in the ground. Seed head matures unevenly, so shake off ripe seeds on occasion before harvesting stalks with remaining mature seed. Screen off chaff; store cool and dry. Approx. 400 seeds/Pkt; 9370 seeds/oz.

#### MOSS CURLED: 71 days

Petroselinum crispum



Finely-curled, more ornamental variety. Winter hardy.

#753 PKT 1.2 gms \$1.20; 1 oz \$3.00

#755 ORGANIC

PKT 1.2 gms \$1.60; 1 oz \$6.00

### DARK GREEN ITALIAN: 80 days

Petroselinum crispum var. Neapolitanum Glossy flat-leaf Italian variety. Called for in many gourmet recipes.

#754 PKT 1.2 gms \$1.20; 1 oz \$4.75

#### PLEURISY ROOT

seeds/oz.

NEW!

Asclepias tuberosum, Perennial

Also known as butterfly milk weed. Beautiful orange/yellow flower cluster on top of spurge-like spikes with whorls of linear leaves. Gets about 3 ft. tall. Attractive ornamental and medicinal plant. Used by Plains Indians for wounds and by herbalist for pleurisy (inflammation of the serous membranes in the lung), this herb is now gaining attention for its overall anti-inflamatory and fever reducing qualities. Approx. 125 seeds/Pkt; 6400

PROPAGATION: Seeds. Germination: 6-

14 days at 50-60° F. Normal Germination 50%. Culture: Responds to cold stratification: put in plastic bag with moist potting soil for two weeks or plant in very early spring or fall plant. Thin plants to 12 in. apart. Likes full sun and tolerates average soils.

#745 ORGANIC PKT 250 mgs \$2.00; 1 gm \$4.00

HERB KEY

↑ = Tall Growing

( = Full Sun

→ = Low Growing

= Shade

= In Seed Racks

恭 = Cold Hardy

T = Medicinal

# Herbs

POPPY, Ziar

NEW!

Papaver somniferum, Annual

Culinary poppy seed variety with unusually sweet seeds and large seed heads. The 2 inch tall heads have been bred to have closed vents so seed will not leek out! Differs from the standard poppy seed flavor being sweeter with none of the



bitterness. Light single lavender petals surround dark red/ pink centers on 4 feet tall plants.

Approx. 200 seeds/PKT; 55,000 seeds/oz.

Flowering period: Summer/fall. Germination: 7-10 days at 60° F. Culture: Sow in flats 5 weeks before transplanting after last frost or direct seed in May. Thin to 6 inches apart. Will reseed itself. Full sun. Average soils.

#748 ORGANIC PKT 100 mgs \$1.50; 1/8 oz \$3.60

#### SAGE

Salvia officinalis, Perennial Culinary, large leaved variety. Leaves used in poultry, stuffing, fish and sauces. Propagation: Seeds and cuttings. Germination: 7-12 days at 70° F. Normal germination 50%. Companion Plant: Rosemary,

Companion Plant: Rosemary, cabbage, carrots. NOT cucumbers. Deters cabbaage moth. Culture: Transplant 6-8 week old plants in May, or direct seed when ground temperature



reaches 60° F. Full sun. Dry, well-drained soil. #**756** PKT 1 gm \$1.30; ½ oz \$3.80

#714 ORGANIC PKT 1 gm \$1.80; 1/2 oz \$5.00

SORREL, Garden: See Page 32

#### SUMMER SAVORY



Satureja hortensis, Annual

Delicious aromatic herb with an upright growth habit, 18 inches tall. Great in meat, vegetable, and bean dishes. Plant turns purple late in the year after flowering.

Approx. 700 seeds/Pkt; 20,000 seeds/1/2 oz.

<u>Propagation</u>: Seeds and cuttings. <u>Germination</u>: 7-14 days at 70° F. Normal germination 50%. <u>Companion Plant</u>: Beans and onions. Deters bean beetle. <u>Culture</u>: Seed into individual pots in March and set out in May or direct seed in late May or when soil reaches 65° F. Space 12 inches apart. Full sun. Light, well drained soil.

#758 PKT 500 mgs \$1.70; 1/2 oz \$10.40

#### WINTER SAVORY



Satureja montana, Perennial

Delicious aromatic herb that is quite viney and spreading. Use the same as SUMMER SAVORY, but the flavor is stronger. Approx. 200 seeds/Pkt.

<u>Propagation</u>: Seeds and cuttings. <u>Germination</u>: 14-20 days at 70° F. Normal germination 50%. <u>Culture</u>: Direct seed in early May, or transplant 8-10 week old plants later in the month. Full sun. <u>Light dry soils</u>. Mulch to winter over.

#760 PKT 100 mgs \$2.15

#### SELF-HEAL

T

Prunella vulgaris, Perennial

Creeping mint family plant. Rough leaves, often grows in Montana. Naturalized in lawns or in moist waste areas. Attractive cyclindrical purple flowers extend up to 2 feet above foliage.

Approx. 113 seeds/Pkt, 7900 seeds/¼ oz.

<u>Propagation</u>: Seeds or transplants. <u>Germination</u>: 7-21 days at 45° F. <u>Culture</u>: Direct seed as soon as ground can be worked in the spring. Space 8 inches apart. Full Sun. Likes moist soils.

#707 ORGANIC PKT 100 mgs \$2.50

#### THYME



Thymus vulgaris, Perennial

Short, compact aromatic herb used in meat, fish, pork, veal, soups, chowders, and tea. Has attractive tiny lavender flowers. Deters cabbage worms. Has medicinal uses.

Approx.700 seeds/Pkt; 25,000 seeds/¼ oz.

Propagation: Seeds and cuttings. Germination: 14-20 days at 55-60° F. Normal germination 50%. Culture: Direct seed in early May, or transplant 8-10 week old plants later in the month. Full sun. Light dry soils. Mulch to winter over.



#764 PKT 200 mgs \$1.55; ¼ oz \$12.70 #713 ORGANIC PKT 200 mgs \$2.00; ¼ oz \$16.60

#### VALERIAN

T NEW!

Valeriana officinalis, Perennial

Vigorous growing herb in Montana, often reaching 7 ft. tall the second year. Compound celery-like leaves on the tall stalked plants topped with lacey white flowers. Noted for its sedative effects, valerian has been used for years by herbalists and pharmaceutically in tranquilizers. Also used to make a compost spray for bio-dynamic preparations.

Approx. 330 seeds/Pkt; 38,000 seeds/oz. PROPAGATION: Seeds. Germination: 7-21 days at 50-60° F. Normal Germination 50%. Culture: Start in flats; sow shallowly and keep moist. Needs darkness to germinate. Transplant after at least 2 or 3 sets of true leaves appear. Set out plants 12 inches apart in the spring. Can be direct seeded very early in the spring for natural stratification. Likes rich loamy solls and will tolerate partial shade.



#741 ORGANIC PKT 250 mgs \$2.00

LAUCINTO: 65 days

Heavily savoyed (bumpy), very dark green, almost black, leaves. The strap shaped leaves are not curly like regular kale, and add an interesting texture and color to salads. Grows well in both the heat and cold.



#287 ORGANIC PKT \$2.90; 5 gms \$6.00; 1 oz \$25.30

WHITE RUSSIAN: 59 days

Similar colored leaves as RED RUSSIAN but with striking white midrib and veins. This kale is the sweetest, mildest tasting kale we've found. More cold-tolerant than RED RUSSIAN, this high quality, semi-savoyed kale is hardy into the single digits when mulched.

#283 ORGANIC PKT \$2.50; 5 gms \$5.80; 1 oz \$17.30

**RED URSA:** 59 days



Rave reviews from National Gardening Testers who rated it in the top five new varieties for 1998. Developed by Frank Morton from Oregon. Prominent ribs and veins vary in shades from pink to purple. Leaves are a similar blue/green as RED RUSSIAN but are much more frilly on the ends of the broad leaves. Vigorous grower can be cut repeatedly and grows back well. Mild flavor during the summer with increased sweetness after frost.

#286 ORGANIC PKT \$2.90; 5 gms \$7.50; 1 oz \$18.50

**RED RUSSIAN: 60 days** 

Gourmet variety with red-purple veins on slate-green leaves. Cooler weather intensifies color. Unlike most kale varieties, RED RUSSIAN is sweet flavored even before a frost. Steamed lightly, the frilly leaves are an attractive garnish. Refrigerate or use promptly after harvest.

#285 ORGANIC PKT \$1. 80; 5 gms \$5.00; 1 oz \$23.50

**KONSERVA:** 60 days



Very high yielding variety with moss-green leaves that curl deeply with cool weather. Tall, upright plants. Flavor improves with frost. Winter hardy, Danish strain.

#281 PKT 1 gm \$1.20; 5 gms \$5.00; 1 oz \$15.00

REDBOR F,: 65 day 0

The first truly red leaved kale. Magenta leaves are large and heavily curled like Konserva. Vigorous plant gets quite large and is an abundant producer.

#288 PKT 50 seeds \$3.90; 100 seeds \$6.50; 500 seeds \$18.30; 1000 seeds \$35.00



# Kale

# Brassica oleracea var. acephala

A staple in cool climates, kale is hard to beat. Extremely frost resistant and lasts most of the winter if properly mulched. Flavor sweetens after a hard frost. Kale is richer in vitamins and minerals than spinach or chard. Plant Kale! 5 feet per person.

PKT 1.5 gm 360 seeds; 5600-9400 seeds/oz.

CULTURE: Sow four seeds per foot, 14-1/2 inch deep and thin to 4-6 inches apart in rows 18-30 inches apart, depending on use. Space wider for whole plant harvest and closer for harvest by single leaves. Deep bed spacing 15 inches apart. SEASON: Cool season. Plant as soon as ground thaws, or mid-July for fall harvest. MIN. SOIL TEMP: 40° F. GERMINATION: 3-6 days. SOIL: pH 6.0-6.8.

COMPANION PLANT: See broccoli.

PESTS: ROOT ROT: Buy hot-water treated seed. CABBAGE LOOPER: Use Bt. FLEA BEETLES: Dust with wood ash or agricultural lime, pyrethrum OR beneficial nematodes. APHIDS: Beneficial insects or soap sprays.

SEED SAVING: Will cross with broccoli, brussels sprouts, cauliflower, cabbage. Winter over in garden. See broccoli.

HARVESTER: 68 days

Exceptionally cold hardy variety. Dwarf habit (15 inches tall) makes it easy to mulch this variety, providing greens through much of the winter. Heavily curled blue/green leaves. Cold vigor and good color have made this a favorite of local market farmers.

#282 ORGANIC PKT \$2.30

# ORNAMENTAL GARNISH FLOWERING KALE

NAGOYA MIX F,: 60 days

A mix of red and white centered varieties with attractive frilly leaf margins like a medium curled regular kale. Very uniform

and vividly colored. Very cold hardy; an excellent bedding plant for fall color in Montana. They last well into the winter in milder climates. A lot better color and more uniform plant size than our regular Flowering Kale, which this replaces. #284 PKT 500 mgs \$3.90



See TOKYO MIX Ornamental Cabbage, page 11.

# Kohlrabí

# Brassica oleracea var. gongylodes

Kohlrabi is a cabbage relative that has the crunchy texture and mild flavor of a cabbage heart. Great in stews. 5 feet per person.

PKT 1 gm 225 seeds; 5500-9000 seeds/oz.

<u>CULTURE</u>: Sow 1 seed per inch in rows 18 inches apart. Thin to 4 inches.

GERMINATION: 3-10 days. <u>SOIL</u>: Rich, slighly acid pH 6.0-6.8. <u>COMPANION PLANT</u>: Aromatic herbs, potatoes, celery, beets, onions. NOT strawberries, tomatoes, pole beans. <u>PESTS</u>: Same as for broccoli. <u>SEED SAVING</u>: Cross-pollinated biennial. Will cross with cabbage, broccoli, brussels sprouts, cauliflower, collards and kale. Cut stalks when seed pods are dry and brittle, dry further on trays; thresh and clean chaff from seeds.

Order on Line on our website: www.gardencityseeds.com

#### **EARLY WHITE VIENNA: 45 days**

Green-white to white; larger and earlier than purple variety. #292 PKT \$1.10; 3 gms \$2.80; 1 oz \$8.90

#### **GIGANTE: 75 days**

Also known as Superschmeltz or Brukev, this huge kohlrabi regularly exceeds 10 lbs. Despite its gigantic proportions, the crisp, white flesh remains mild-flavored and tender throughout its development. First introduced into the USA by Professor Elwyn Meader, this is a reselected elite strain.

**#293** PKT \$2.50; 3 gms \$6.50; 1 oz \$23.75

#### **EARLY PURPLE VIENNA: 60 days**

Strikingly purple with a white interior. A little smaller than WHITE VIENNA. Pick early to avoid woodiness. #291 PKT \$1.30; 3 gms \$2.50; 1 oz \$10.00

# Leeks

# Allium ampeloprasum

A tall non-bulbing type of onion used by many cooks for the mild flavor it adds, especially to meat dishes and soups. Leeks benefit greatly from a good mulch to compete with weeds and to blanch the stalks without hilling. Leeks will stand freezing weather when properly hilled or mulched. PKT 1.5 gms 425 seeds, 9400-11,250 seeds/oz.

CULTURE: Start in flats 4 to 6 weeks before setting out, 1 inch apart, ½ inch deep. Keep tops trimmed to 5 inches and keep well fertilized. The larger the transplants, the larger the leeks. Transplant 6 inches apart in rows 24 inches apart. SEASON: Cool season. Transplant out 2 weeks before last frost

MIN. SOIL TEMP: 40° F. SOIL: Rich, slighly acid pH 6.0-6.8. COMPANION PLANT: Celery, carrots, onions. PESTS: SMUT: Control through rotation. THRIPS: Control through clean tillage. SEED SAVING: Cross-pollinated biennial. Will cross with other varieties of leek. To preserve genetic diversity, save seed from a minimum of 64 plants. Overwinter leeks in the ground with heavy mulch or root cellar and transplant following spring. Let seed heads form; crush when dry. Winnow out chaff. Store cool and dry.

#### KING RICHARD: 75 days

An excellent fast growing leek. Under good conditions the white stem can reach one foot in length. Best for flavor and productivity in our trials of summer leeks. Tolerates frost as well as onions.

#300 PKT \$1.80; 4 gms \$3.70; 1/2 oz \$7.00



#### **GIANT CARENTAN: 130 days**

Excellent winter leek, producing white stems and delicate green tops. Mulch for use during the late fall. Grows well here in Montana.

#301 PKT \$2.90

#### GREEN LEAF

#### BLACK SEEDED SIMPSON:

42 days

Popular standard of the green leaf lettuces. Very quick to mature, adaptable and even withstands some frost. Crinkled,

crisp light green leaves blanch almost white at plant's center. Likes cool temperatures. Can be planted in late fall for early spring harvest!

**#310** PKT \$1.10; 3 gms \$2.50; 1 oz \$4.00; ¼ lb \$10.30 **#316** ORGANIC PKT \$1.50; 3 gms \$3.50

### WALDMAN'S DARK GREEN: 50 days

Uniform, vigorous green leaf variety with dark green finely fringed leaves. Choice of commercial growers for whole head harvest. MT.

#313 PKT \$2.40; 3 gms \$3.90

#### **DEER TONGUE: 48 days**



Popular heirloom leaf lettuce. Thick, pointed rich-flavored leaves don't turn bitter. Will not bolt! Supply limited.

Save your own seed.

#312 ORGANIC PKT 500 gms \$2.00; 3 gms \$3.75; 1 oz \$8.00; 1/4 lb \$28.00

## BIBB / BUTTER

### **MERVEILLE 4 SAISONS: 60 days**

Beautiful, ruby red colored butter lettuce with tightly folded green hearts. Excellent flavor with crisp yet tender leaves. Good bolt resistance.

**#318** PKT \$1.80; 3 gms \$4.30; 1 oz \$7.30 **#311 ORGANIC** PKT \$2.50; 3 gms \$5.60

#### FLASHY TROUTBACK: 46 days





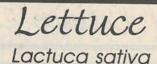
Wildly mottled leaves make your salad look like a mix when just using this one variety. Jade green leaves splashed with dark purple/maroon. Good bibb chararacteristics: crisp yet tender leaves and good flavor. A new variety from the plant breeding efforts

of our friend Frank Morton in Oregon. #324 ORGANIC PKT \$2.00; 3 gms \$4.50

#### **BUTTERCRUNCH:** 50 days

Thick, tender rich-flavored leaves in loose 6 inch rosettes. Heat resistant variety with sweet, blanched centers. AAS 1963. #315 PKT \$1.10; 3 gms \$2.00; 1 oz \$3.00; 1/4 lb \$10.40

#314 ORGANIC PKT \$1.45; 3 gms \$2.60



Lettuce is easy to grow. The most common mistake by gardeners is to plant a lot early in the spring, the result being that all the lettuce is gone by mid-summer. To avoid this, begin planting as soon as the ground thaws and plant a little every 2 weeks until mid-summer. Lettuce has a tendency to bolt in hot weather, so for mid-summer growing, try to provide some shade, or plant in mid-summer to grow in cooler fall. Lettuce likes rich soil but will produce even in poor soil. Head lettuce grows best from seedlings and shouldn't be watered overhead after heads have developed. 10 feet per person.

PKT 1 gm 850 seeds, sows 40 feet; 20,000-30,000 seeds/oz. CULTURE: Sow 4-5 seeds per foot, ¼ inch deep, 10-18 inches between rows. If large plants are desired, thin to 12-15 inches apart. Deep bed spacing 8 inches. For transplanting, sow in flats 4 seeds per inch and set out 4-5 weeks later, 12-15 inches apart, in rows 10-18 inches apart.

SEASON: Cool season. Plant when soil can be worked, 4-6 weeks before last frost and every 2 weeks till mid-July.

MIN. SOIL TEMP: 35° F. GERMINATION: 7 days. Provide shade and adequate water for summer germination.

SOIL: Slightly acid to neutral pH above 6.0.

COMPANION PLANT: Carrot, radish, strawberry, cucumber. PESTS: TIP BURN: Maintain adequate moisture, don't overfertilize. LEAF ROT: Rotate crops. APHIDS: Control with beneficial insects and soap sprays. Control of aphids also controls spread of MOSAIC VIRUS. SEED SAVING: Self-pollinated annual. Allow slower bolting plants to flower. Cut stalks when seed is fully ripe and at least half of flowers have "fluffed out." Let dry further, until flowers shatter easily. Winnow seeds to remove chaff. Store cool and dry.

Market Farm Tips

Our local organic farm sows seed directly into cell-type containers. They grow the plants in the greenhouse for 3-4 weeks at a temperature of 60-65° F, harden them off when they are about 3 inches, then plant out. The trick to successful crops is to keep the plants uncrowded and growing rapidly by providing plenty of water and nutrients.



Give lettuce the boost it needs with high nitrogen fertilizers and foliar sprays, pages 69-71.

# Lettuce

## ROMAINE (COS)

LITTLE GEM (Sucrine): 45 days

Our most popular romaine. 6 inches high with thick sweet heart. No waste, perfect for individual salads and sandwiches. Easy to grow and holds well for prolonged harvest. #325 PKT \$1.20; 3 gms \$2.25; 1 oz \$5.00; ¼ lb \$17.80

**VERTE MAR LETTUCE: 56 days** 

Very early French romaine. Our sweetest lettuce with excellent crisp texture and medium dark-green leaves. #328 PKT \$1.80; 3 gms \$4.60

**CIMMARON: 68 days** 

Deep red romaine dating back to 18th Century. Excellent color demanded by market farmers. 10 inches high. Rarely bolts. Good flavor, too.

#332 PKT \$1.20; 3 gms \$3.00; 1 oz \$7.90



**CIMMARON Romaine** 

PARRIS ISLAND COS: 68 days

Old favorite. Dark green and huge (12 inches tall at maturity). Good heart protection and vigorous growth. Transplants well under stressful conditions. TB, LMV.

#330 PKT \$1.20; 3 gms \$3.10; 1 oz \$8.00 #321 ORGANIC PKT \$1.70; 3 gms \$4.50



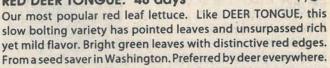
# HEAD

ITHACA: 70 days

A popular head lettuce because of its reliable heading quality. Resistant to tip burn in hot weather. Heads up well on fertile soil and is best flood irrigated to avoid bottom rot. MI, TB, BR. #333 PKT \$1.30; 3 gms \$3.40; 1 oz \$14.40

## RED LEAF

**RED DEER TONGUE: 48 days** 



#322 PKT 500 mgs \$2.00; 3 gms \$3.50; 1 oz \$9.00

**NEW RED FIRE: 65 DAYS** 



The standard for a dark red leaf lettuce that holds its color well under difficult conditions. Good uniformity and field holding characteristics needed by market farmers. Slow bolting.

#323 PKT \$2.50; 3 gms \$6.20

#### **RED SALAD BOWL: 46 days**

Shiny oakleaf-shaped leaves of burgundy do not get bitter in hot weather. Cool weather brightens color. Extended harvest with slowbolting habit.

**#320** PKT \$1.10; 3 gms \$2.80; 1 oz \$6.00; ¼ lb \$18.00

#326 ORGANIC PKT \$2.20;3 gms \$5.70



## FRENCH CRISP HEAD

**RED GRENOBLE: 53 days** 

Beautiful red leaf lettuce, sparkling dark-green, contrasting with wine red. Can be cut young or left to head. Very bolt resistant and vigorous. Great flavor! A splendid, easy to grow lettuce.

#336 PKT \$1.50; 3 gms \$3.75; 1 oz \$25.20

Rouge Grenobloise (RED GRENOBLE) lettuce



SIERRA: 60 days

Unique, eye-catching heads with round, serrated, bright green leaves, tinged red. Resistant to tip burn and bolting. Nutty flavor with no bitterness. DM, LMV.

#338 PKT 500 mgs \$2.20; 3 gms \$8.20; 1 oz \$37.00

### **GOURMET MIX**

A colorful and delicious mix. Shake package and sow 20 seeds per foot in rows 6-8 inches apart in early May. Thin to 2-4 inches between plants. Harvest whole leaves when they reach 4-6 inches tall, picking from the outside of the plant, or trim plants with a scissors when 2-4 inches tall. Can be planted three times, once a month up to July 1st for Fall harvest. PKT 1 gm.

#### MILD MESCLUN MIX: 50 days

A delicious blend of salad greens selected for color, texture, and mild flavor.

Contents: VERTE MAR, RED SALAD BOWL, BUTTERCRUNCH, CIMMARON, and MERVEILLE 4 SAISON LETTUCES, TRES FINE ENDIVE, WHITE RUSSIAN KALE.

#309 PKT \$1.50; 3 gms \$3.40; 1 oz \$6.90

# Mesclun Mixes

#### SPICY MESCLUN MIX: 50 days

A spicy blend of greens for those wanting a piquant and colorful salad.

Contents: VERTE MAR, SIERRA, and ROUGE GRENOBLOISE LETTUCES; VERTE DE CAMBRAI MACHE (CORN SALAD); ARUGULA; RED GIANT and KYONA MUSTARDS; TRES FINE ENDIVE; and RUBY RED SWISS CHARD.

#308 PKT \$1.50; 3 gms \$3.40; 1 oz \$6.90

#### **MINNESOTA MIDGET: 65 days**

Well adapted strain of this popular 4 inch, orange-fleshed melon. Vines are only 3-4 feet long, and sugar content is high. A good example of good things that come in small packages. FW.

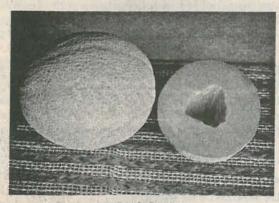
#340 PKT \$1.20; 1 oz \$13.20

#### EARLIGOLD F,: 68 days

NEW!

Early maturing western muskmelon with good flavor!. Thick, sweet and juicy, orange flesh, much better than ALASKA which it replaces. Vines produce a concentrated set of 4-5 lb, 6 x 7 inch fruit. Harvest when the netted skin turns from grey to light tan. Will produce in Montana if you follow the rules for melons in our culture section. PM

#341 PKT 500 mgs \$1.65; 1/8 oz \$4.30; ½ oz \$14.30



EARLIGOLD F.

#### BURPEE F,: 82 days

iable

The standard melon for Montana melon growers. Reliable producer of 7 inch melons with outstanding flavor. Repeat customers ask for it by name. Holds well for market. Heavily netted and ribbed rind with deep orange, thick juicy flesh. #344 PKT 500 mgs \$3.50; 1/8 oz \$20.00

# Muskmelon

### Cucumis melo

Montana and melon growing aren't exactly close friends largely due to our short growing season and cool nights in the mountains. To raise soil temperatures, either place partially rotted manure with straw 8 inches under seed or transplants and/or use a plastic mulch or row cover. Cover plants during chilly weather for first month of growth. Make sure to remove covers during the day to insure that insects can pollinate the melons. When ripe the curled tendril nearest the fruit will be dried up. For row covers see page 67. Pkt 1.5 gms 30 seeds, sows 10 feet; 4 gms 100 seeds.100-1250 seeds/oz.

CULTURE: Sow indoors 3 seeds per pot about ½ inch deep. Transplant 2 feet apart in rows 5 feet apart. Direct seed 3 seeds per foot ½-l inch deep. Thin plants to 2 feet apart. Maintain adequate fertility, especially nitrogen, and keep temperature 70° F or higher. SEASON: Warm season. Plant or transplant after last frost. MIN. SOIL TEMP: 65° F. GERMINATION: 5-10 days. SOIL: Slightly acid to neutral pH above 6.0. COMPANION PLANT: Beans, corn, peas, radishes, sunflowers. NOT aromatic herbs, potatoes.

<u>PESTS</u>: STRIPED CUCUMBER BEETLE spreads FUSARIUM WILT: Control through heavy mulching and beneficial nematodes. MOSAIC: Thin affected plants, keep area free of perennial weeds.

<u>SEED SAVING</u>: Cross-pollinated annual. Will cross with other varieties. Grow at least 16 plants to preserve genetic diversity. Scoop out seed from fully ripe melons. Wash well and dry.

# Market Farm Tips

The 2 main standards for high-yielding melons are:

- Soil warmth. Optimal temperature of 70° F can be reached by planting in light soil, raised beds, a protected plot with southern exposure, or through the use of plastic mulches or row covers.
- High fertility. Early vigorous plant growth is crucial for fruit development. Foliar feeding with kelp sprays is also highly recommended.

# Oníons Allium cepa

Onions may be grown from seed or sets. The best results are from seeds. Sow indoors and transplant. Bunching onion seed like EVERGREEN may be direct seeded in late October to come up early in the spring (plant I inch deep). Onions grow best on well drained, peat soils. They are sensitive to spacing and will not form large bulbs if crowded. Keep onions well-weeded and watered. After bulbs reach the desired size, cut back on water and wait for tops to fall over. Pull plants and allow them to dry for a week. Then cut stalk off about 1 inch above the bulbs and spread bulbs out to dry in the shade for another week before storing in a cool, dry, well-ventilated area.

25 feet per person. Bunching onions 10 feet per person. PKT 1.5 gms 250 seeds sows 12 feet; 5900-7800 seeds/oz.

CULTURE: Start indoors in March in flats 4 seeds per inch, 4-6 weeks before setting out. Transplant out in April 4 inches apart in rows 12-18 inches apart. Direct seed 1-3 seeds per inch., ¼-½ inch deep. Thin seedlings or plant sets 3-4 inches apart in rows 12-16 inches apart. Thin bunching onions as they mature. Deep bed spacing 3 inches for bulbing, 1 inch for bunching onions. SEASON: Cool season. Transplant or direct sow as soon as ground can be worked in the spring. MIN. SOIL TEMP: 35° F. GERMINATION: 6-12 days.

SOIL: Slightly acid pH 6.0-6.8. COMPANION PLANT: Beets, strawberries, tomatoes, lettuce, chamomile, summer savory. NOT peas or beans. PESTS: NECK ROT: Keep maturing bulbs dry, cull out affected bulbs before storage. DAMPING OFF: Clean tillage & well-drained soils. THRIPS: Control perennial weeds. ONION MAGGOT: Beneficial nematodes OR diatomaceous earth. SEED SAVING: Cross-pollinated biennial. Plant mature bulbs in the spring or overwinter bunching onions. To preserve genetic diversity, save seed from at least 64 bulbs. When black seeds on flower heads become exposed, cut flower stalks. Dry heads on screens or paper. Rub seed from heads when dry. Winnow to remove chaff. Viable for only 1 year.

Market Farm Tips

Weed regularly. Seeds are more economical than sets, produce better quality bulbs, and are less prone to disease. Start with fresh seeds, as onion seeds are very short lived. In the north, grow long or intermediate day types. (We don't sell any short day types.) Sell or use bulbs with thick necks first, select the bulbs with thinnest necks for later sales or storage.

NEW YORK EARLY: 98 days

An early, productive strain of EARLY YELLOW GLOBE that is the most dependable open-pollinated onion we've found. This yellow onion is firm enough for medium-term storage but still mild enough to be eaten raw on sandwiches or in salads. Selected by Orange County New York onion growers for first rate market quality. Some tolerance to pink root.

**#351** PKT \$2.20; 4.5 gms \$4.80; 1 oz \$14.70; ¼ lb \$40.00; 1 lb \$70.00

### YELLOW ONIONS

CANDY F,: 95 days

You can now grow an onion in the north with the mild flavor of a short-day southern variety!

CANDY is called an intermediate day onion that produces very large, deep globe shaped bulbs with small necks and golden brown skin. A reasonably good storage onion, CANDY will keep until February. Finding a sweet onion that also stores is quite a breakthrough, and Candy is refined enough for market.



#358 PKT \$2.50; 4.5 gms \$6.70; 1 oz \$16.30

#### SWEET SANDWICH F,: 110 days

Unique sweet storage onion. 2-3½ inch diameter onion actually grows sweeter in storage. Pungent when picked, it can be used as a cooking onion. After it mellows and sweetens in storage, it can be used for salads and sandwiches. Good producer. Stores longer than CANDY.

**#354** 100 seeds \$1.90; 500 seeds \$6.05; 1000 seeds \$10.00; 2000 seeds \$18.00; 5000 seeds \$40.00

#### BUFFALO F,: 88 days

An exceptionally early, large yellow onion that matures a full 10 days to 2 weeks before any other onion we've trialed. Imagine having a crop of large onions from direct seeding that are fully mature (all tops down) by August! BUFFALO produces uniform bulbs with an attractive flattened globe shape that are great for first early market sales and will store for up to 3 months. Can be grown as an overwintering crop in long and intermediate day latitudes where the winter minimum temperature does not drop below-10°F. See WALLA WALLA for planting details.

#355 100 seeds \$2.50; 500 seeds \$7.40; 1000 seeds \$11.75

#### COPRA F,: 105 days

Our most popular and best storage onion. Bulbs are uniform and attractive with copper colored skin. Medium size, round and hard with a very mild flavor compared to other long-term storage onions. Very bolt resistant in cool weather conditions. #356 100 seeds \$1.80; 500 seeds \$4.40; 1000 seeds \$7.00; 2000 seeds \$12.00; 5000 seeds \$30.00

#### WALLA WALLA: 110 days

The famous northwest gourmet sweet onion can be grown from seed. Extra large, globe-shaped onions are often purchased as plants in nurseries for spring transplanting in the Northwest. In long and intermediate day areas where temperatures do not drop below -10° F, they can be planted between August 15 and September 1 and overwintered under a light mulch for harvest the following late June or early July. For colder areas it's best to raise seedlings and set out transplants in early to mid April. Not a storage onion.

#357 PKT \$1.80; 4.5 gms \$4.80; 1 oz \$8.30

### **RED ONION**

#### **REDMAN: 108 days**

The best open-pollinated red onion available. This select strain has a handsome, deep red exterior with firm pinktinged flesh. Maturity is earlier than other reds, including most of the hybrids. Flavor is good with only medium pungency, milder than most storage yellows. REDMAN stores well for a red type, usually lasting until Christmas.

#353 PKT \$1.40; 4.5 gms \$3.70; 1 oz \$7.20;¼ lb \$15.00

# SOUTHPORT RED GLOBE: 120 days NEW!

Good storage red. Large dark purple bulbs with better than average interior color. Growers report some tolerance to pink root. Pungent flavor.

#359 PKT \$1.65; 4.5 gms \$4.30; 1 oz \$8.00; 1/4 lb \$27.00

# Onions

## **BUNCHING ONIONS/SCALLIONS**

Allium fistulosum

#### **EVERGREEN HARDY: 65 days**

A bunching onion that deserves to have "hardy" in its name. Leek-like stalks are non-bulbing and versatile fresh or cooked. Sow in spring or plant later to overwinter. If wintered over, divide clumps and spread out in spring.

#352 PKT \$1.10; 4.5 gms \$3.00; 1 oz \$5.00; 1/4 lb \$17.60; 1 lb \$28.00

# **ONION SETS AND SHALLOTS**

Onion sets and shallots are shipped beginning April 1st.

Please order them using the Root and Tuber order form.

## ONION SETS

#### YELLOW ROCK

Premium quality western grown onion sets. Earlier and much firmer than YELLOW EBENEEZER with less tendency for neck rot. Good light tan wrapper leaves. One of the best storing varieties. Graded for small, non-bolting bulbs.

#1541 100 sets (¾ lb) \$4.00; 300 sets (2 lbs) \$6.00; 500 sets (3 lbs) \$8.00



#### CHEROKEE RED

Large, globe shaped, deep red bulbs with firm, pink-tinged flesh. Flavor is pungent yet milder than yellow onions. Will not store as long as yellow onions, so eat these first. #1542 100 sets (¾ lb) \$4.00; 300 sets (2 lbs) \$6.00;

500 sets (3 lbs) \$8.00

#### WHITE EBENEEZER

Mild and sweet. Doesn't store as well as yellow or red onions. #1543 100 sets (¾ lb) \$4.00; 300 sets (2 lbs) \$6.00; 500 sets (3lbs) \$8.00

# SHALLOTS

Allium cepa,
Aggregatum Group
Shallots are best planted in very
early spring in our climate.
Culture: 4-6 inches apart in rows

18 inches apart, 1 inch deep from top of bulb. When sized up (September) stop watering and wait for tops to brown and fall over before harvest.

#### **DUTCH YELLOW SHALLOTS**

Produces large round bulbs with copper-red skins. Uniform in size, this shallot is an excellent keeper. It is tender and spicy, with a pungent raw flavor that mellows and sweetens but still retains its character when cooked.

#1544 1/2 lb \$7.00; 1 lb \$11.50; 5 lb \$35.00

#### HOLLAND RED SHALLOTS

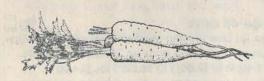
A coppery red outer skin peels easily to reveal a reddishpurple flesh. Milder than most. Excellent storage quality and outstanding yeilder.

#1545 1/2 lb \$7.00; 1 lb \$11.50; 5 lb \$35.00

#### HARRIS MODEL: 120 days

Long white roots, averaging 10 inches long and 2 inches at the crown. To obtain smooth tapered roots grow in deep, uncompacted soil. Good overwintering type that is very sweet when harvested in spring.

#381 PKT \$1.20; ½ oz \$2.90; ¼ lb \$10.00; 1 lb \$25.90



# Parsnips

# Pastinaca sativa

 ${
m Parsnips}$  are ideally suited to Montana, and are best harvested after a hard frost or in early spring. Winters over well.

PKT 2 gms 360 seeds, sows 25 feet; 3750-7500 seeds per/oz.

CULTURE: Sow 12 seeds per foot, ¼ inch deep in rows 18-24 inches apart. SEASON: Cool season. Plant as soon as ground can be worked in the spring. MIN. SOIL TEMP: 35° F.

GERMINATION: 3 weeks. SOIL: Slightly acid pH 6.0-6.8.

<u>PESTS</u>: APHIDS: Control with beneficial insects or soap sprays. PARSNIP WEBWORM: Problem for seed production. Remove affected flowers and spray crop with pyrethrum mixed with Bt.

# Peas Pisum sativum

Along with certain greens, peas are often the first vegetable harvested in the garden. Peas are a cool weather crop, and yields are heaviest during the early summer. Plant in the spring when soil temperature has reached at least 40° F. Plant in well-drained neutral pH soil (add lime if necessary) with plenty of available potassium. Provide some support such as wire or string fences for all but NOVELLA II and SUGAR LACE. To extend the season, try planting two or three times at 10 day intervals; plant heat resistant WANDO last. A bacterial inoculant (page 47) will help overall vigor and will improve nitrogen fixing capacity. Crop rotation helps deter root rot. Our seed is not treated with a fungicide, so rotting in unusually cool and wet soils is a possibility. Plastic mulch can help to stabilize soil moisture (by preventing over-soaking by rain) and raise soil temperature (caution: max. soil temp. 85° F). Soaking seed over night in warm water before planting speeds germination. 15 feet per person.

PKT 1½ oz 200 seeds, sows 16 feet; 1500-2700 seeds/lb.

CULTURE: Sow 12 seeds per foot, 1-1½ inch deep in rows 12 inches apart. For double row planting, plant 3 inches between rows, 18-30 inches between each double row. Use different spacing for leafless, freestanding varieties (see NOVELLA II). SEASON: Cool season. Plant 4-6 weeks before last frost. MIN. SOIL TEMP: 40° F. SOIL: Slightly acid pH 6.0-6.8

COMPANION PLANT: Most vegetables and herbs. NOT onions, garlic, gladiolas, potatoes. <u>PESTS</u>: BACTERIAL BLIGHT: Buy western grown seed, avoid injuring plant. FUSARIUM WILT: Buy resistant varieties. ROOT ROT: Rotate crops and keep soil well drained. APHIDS: Release beneficial insects, use soap sprays. <u>SEED SAVING</u>: Self-pollinated annual. Save seed from a minimum of 8 plants. Pull up plants when pods turn yellow and peas rattle in pods. Hang to dry, and shell peas when very dry. Store in ventilated container in a cool and dry place.



MAESTRO: 55-57 days

Disease resistant early GREEN ARROW type. Very vigorous 24-30 inch vines. Long 3½-4 inch pods fill out only as peas enlarge, eliminating guessing. A long bearing, high yielding main crop variety. PM, PEMV, BYMV.

#402 PKT \$1.40; ½ lb \$3.00; 1 lb \$4.60; 5 lbs \$16.70

LINCOLN: 65-68 days

A disease resistant strain of this old favorite. Large peas, 3 inch long pods. Compact 2½ foot tall vines. Good freezer; more heat tolerant than all but WANDO. CW. #404 PKT \$1.40; ½ lb \$3.00; 1 lb \$4.50; 5 lbs \$15.00

SHELL PEAS

KNIGHT: 58-60 days

An early, high yielding, disease resistant, main crop pea. Short 24 inch vines. 3½-4 inch pods contain 6-8 flavorful peas. Peas are larger than MAESTRO. Vigorous disease resistant plants. PEMV, BYMV, PM, CW.

#403 PKT \$2.05; 1/2 lb \$4.10; 1 lb \$7.00



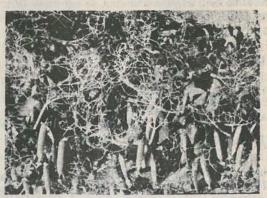
GREEN ARROW: 65-68 days

The standard long podded shelling pea. Northern gardeners love this variety for its yield, flavor and prolific, two pod per node habit. Extra large pods, 4-4½ inch long, containing 8-11 peas. Easy picker! DM, FW, RR, LCV.

#405 PKT \$1.40; ½ lb \$3.00; 1 lb \$4.50; 5 lbs \$11.50; 50 lbs @ \$1.80

NOVELLA II: 65-68 days

This pea bears large crops without trellising. Easy to pick because of semi-leafless trait. To take advantage of its free standing characteristic, plant 5 rows 7 inches apart, 4 inches between plants in the row. Disease resistant. Easy to shell, 3 inch pods. Great flavor for the freezer. PM, CW, FW. #408 PKT \$1.80; ½ lb \$4.50; 1 lb \$7.30; 5 lbs \$22.50



Semi-leafless NOVELLA II peas with easy-to-pick pods

WANDO: 64-68 days

The best pea for late sowing. Most tolerant of hot weather. Large peas in blunt 3½ inch pods on 2½ foot tall plants. #406 PKT \$1.40; ½ lb \$3.80; 1 lb \$6.20; 5 lbs \$14.90

## CHINESE/SNOW PEAS

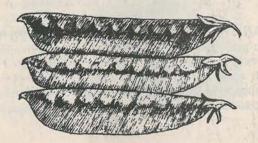
Edible Pods for salads and stir fry. Harvest when pods are flat, sweet and tender.

OREGON SUGAR POD II: 62 days

Our most popular snow pea. Stringless pods best when 4 inches long. Keeps producing after 3 pickings! Tolerant of short hot spells. Developed for added disease resistance by Dr. James Bagget at Oregon State University. A good snow pea for the freezer. PM, FW, PEMV, BLRV. AAS.

#412 PKT \$1.30: 1/2 lb \$3.00: 1 lb \$4.90; 5 lbs \$11.40

#411 ORGANIC PKT \$1.70; 1/2 lb \$3.90



**OREGON GIANT: 60 days** 

The best flavored snow pea in our trials. The pods and the peas inside are both sweet. Produces high yields of huge 41/2 x 1 inch flat pods. This disease resistant variety starts producing early and harvest continues over a long period. PM, FW, PEMV,

BLRV, RCVMV.

#410 PKT \$1.40; 1/2 lb \$3.20; 1 lb \$5.40; 5 lbs \$13.60

Market Farm Tips

Best to harvest peas in the cool early morning hours, preferably before the dew is off. Store freshly harvested peas in slitted plastic bags, twist tied at the top, and refrigerated. Ship bags in boxes to avoid bruising. Trellises can be made with stakes woven with twine or chicken or hog wire (field fencing) attached to stakes placed between pea rows. NOVELLA II and SUGAR LACE work well without support.

# NITROGEN-FIXING INOCULANT

Greatly improves pea plant vigor and increases yields. These inoculants contain beneficial bacterial cultures which live in the roots of legumes, forming nodules, adding nitrogen to the soil.

#### 1112 PEA INOCULANT

Also treats winter peas, vetch and lentils.

Treats 15 lbs of seed, \$3.30 (1/4 lb)

#### 1113 LARGE PEA INOCULANT

Same as above.

Treats 100 lbs of seed, \$5.50 (1/4 lb)

# Peas

### SNAP PEAS

Very sweet edible pod peas that are best eaten when the peas inside have attained full size.

#### SUGAR ANN: 56 days

Very early snap pea on self supporting (if double rowed), 2 foot vines. Best flavored of the dwarf snap peas. Excellent flavored 21/2 inch pods. AAS 1984.

#413 PKT \$1.80; 1/2 lb \$4.30; 1 lb \$7.50; 5 lbs \$21.00



Sugar Ann peas

#### SUGAR SNAP: 65 day

Best tasting of the snap peas. Bears abundant 21/2 inch meaty, juicy pods, sweet all through. Use fresh or freeze. Will climb up to 6 feet, so needs support. Frost resistant. AAS 1979. #414 PKT \$1.50; 1/2 lb \$3.30; 1lb \$5.60; 5 lbs \$17.80



Sugar Lace peas

#### SUGAR LACE: 68 days

Semi-leafless plant like NOVELLA II (see NOVELLA for planting instructions) that produces plump 31/2 inch stringless sweet snaps. Two pods per node and self-supporting vines means easy harvest and no trellising. Very good disease resistance. PM, PLRV, PEMV

#416 PKT \$1.80; 1/2 lb \$4.30; 1 lb \$7.50; 5 lb \$21.00

# Peppers Capsicum annum

Peppers like warm weather; growth is poor if planted too early. They benefit from row coverings used during cool weather or at night, and they like a light, loamy, slightly acidic soil but will do all right in sandy soils. Available phosphorus is important, but too much nitrogen can cause luxuriant leaf growth at the expense of flowering and fruit set. Peppers require adequate water, especially for fruit maturation. Optimum growing temperature is from 70-75°F for sweet peppers and 70-85°F for hot peppers. Pepper growth slows at 80°F for sweet peppers and 95°F for hot peppers. Hot peppers also must reach full maturity for maximum flavor. Peppers should be planted close enough that leaves touch, not more than 12 inches apart. Maturity dates are from time of transplant.

150 plants per 100 feet, 6 plants per person. PKT 500 mgs 50 seeds; 3400-4000 seeds/oz.

CULTURE: Plant indoors 1-2 inches apart in flats, 8-10 weeks before transplanting to 2-3 inch pots when true leaves appear. Plant outside 10-12 inches between plants, rows 18 inches apart. Also can double up plants 6 inches apart, 12 inches between couples. Deep bed spacing is 12 inches apart. SEASON: Warm season. Plant 2-4 weeks after last frost or when soil temperature reaches 60° F. Growing temperature 70-75° F during the day and 60° F at night. SOIL: Slightly acid pH 6.0-6.8. MIN. SOIL TEMP: Above 80°F for optimum germination. GERMINATION: 14 days. Peppers take about 50% longer to germinate than tomatoes. Don't over water. COMPANION PLANT: Most vegetables and herbs. NOT onions, garlic, gladiolas, potatoes.

<u>PESTS</u>: BACTERIAL SPOT: Rotate crops. TOBACCO MOSAIC: Eliminate host nightshade weed, do not allow smokers to handle seedlings unless hands are washed. APHIDS: control with beneficial insects or soap sprays.

<u>SEED SAVING</u>: Mostly self-pollinated annual, but will cross with other varieties. Save seed from a minimum of 8 plants. Wait until fruit is fully ripe (showing at least some red). Scrape out seeds, rinse, dry, store in cool dry place.

Market Farm Tips

To prevent wilting and sudden death from fungus, be careful not to over water seedlings, especially during damp or cloudy weather. Use 4 inch pots for transplants to develop better roots and larger plants. Stocky plants will be better performers in the field than leggy plants left in the greenhouse too long. Earliness can be increased with black plastic mulch. A double layer of fabric row cover provides protection from cool night time temperatures.

### **SWEET and BELL**

ACE F,: 50 days



Easy to grow, extra early pepper, great for stuffing. 3-4 lobed fruits turn red earlier than most even in adverse weather. Easy to pick. Wonderful flavor when broiled with olive oil.

#438 PKT 250 mgs \$2.90; 2 gms \$11.75

#### **ITALIAN SWEET: 58 days**



Easy to grow and delicious long Italian sweet pepper that turns red and sweet early. Plants can also be pulled when peppers are green and hung to ripen which brings out the full peppery sweetness of this excellent cooking pepper. #443 ORGANIC PKT 250 mgs \$1.40; 2 gms \$4.50; ½ oz \$21.00

#### CALIFORNIA WONDER 300: 65 days



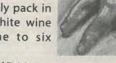
We were impressed with the earliness, productivity and quality of this popular variety. Fruits are smooth skinned and thick walled with excellent flavor. Plants are vigorous, upright and prolific. TMV.

**#426** PKT \$1.10; 2 gms \$3.50; ½ oz \$8.35; 1 oz \$12.75 **#420 ORGANIC** PKT \$1.45; 2 gms \$4.55

#### **ROBUSTINI F, PEPPERONCINI: 65 days**

NEW!

Make your own peperoncini at home with this easy to grow variety. It used to be that green varieties would have to be bleached and dried before pickling to get that yellow/green color, but with ROBUSTINI you simply pick it when it gets that color on the vine, usually at 2-3 inches long. Fruits are lobed, slighltly pointed and thin walled, ideal for pickling (simply pack in jars and cover with white wine vinegar, cure for one to six months.)



#423 PKT \$2.50; 2 gms \$7.00



#### SUNRISE ORANGE: 60 days

Beautiful yellow bell peppers turn orange then red at full maturity. Plants are loaded with large, blocky fruits that are thick walled and sweet. Plants are vigorous and bushy with large leaves that provide sunburn and limited frost protection of the fruit. Early and productive!

#424 ORGANIC PKT \$1.70; 2 gms \$3.10; ½ oz \$12.00

## **SWEET and SEMI-SWEET**

**PURPLE BEAUTY: 70 days** 

Good yield of blocky deep purple peppers. Mild sweet flavor and unique color make this a perfect addition to a salad. Fruits turn green when cooked.

#442 PKT 250 mgs \$2.50; 2 gms \$7.50



# Peppers

**ANAHEIM TMR: 75 days** 

A popular and predictably high producing strain of Anaheim. Long, glossy green, pointed

peppers, great in chile rellenos. 7 inch long pods; 2 inches at the the top. TMV.

#425 PKT\$1.20; 2 gms \$3.90;

1/2 oz \$10.90



Order on Line on our website: www.gardencityseeds.com

### HOT PEPPERS



#### HUNGARIAN HOT WAX: 58 days

If you want success growing hot peppers in the colder areas of Montana, this variety is your best pick. Pretty tapered yellow fruits turn orange, then red, and become hotter as they mature.

#432 PKT \$1.70; 2 gms \$5.80

ARLEDGE: 75 days





A seed saving family in Louisiana held this variety for 3 generations, and we've discovered that it is an excellent variety for early harvest. In our search for a pepper that will deliver HOT full flavor, this is the best we've ever found. It is loaded with 2-3 inch cone shaped fruits that are pale yellow ripening to red. Plants refused to give up after a hard frost; they produced a vigorous new growth of leaves and blossoms. #437 ORGANIC PKT \$2.00; 2 gms \$6.30

#### OLÉ JALAPEÑO: 68 days

This early, jumbo dark green jalapeno produces a prolific crop of peppers on stout bushy plants. Thick walls contribute to the excellent flavor of these hot peppers whether eaten raw or pickled. The earliest and largest jalapeno in our trials. Resistant to Tobacco Etch Virus.

#444 PKT \$2.00; 2 gms \$6.00

# LONG SLIM CAYENNE: 65 days

Long thin fiery hot peppers turn a bright red. Thin walls make drying easy; make your own cayenne seasoning.

#430 PKT \$1.50; 2 gms \$5.25; ½ oz \$14.00



#### TAM JALAPEÑO: 72 days

More productive than EARLY JALAPEÑO and ¼ to ½ as hot. Same size and shape. Excellent flavor, good for canning and freezing, eating raw or roasting. For those who like jalapeno flavor but can't take the heat.

#436 PKT \$2.50; 2 gms \$9.00

GARDEN SALSA F,: 73 days

Produces tons of 7-8 inch long, 1 inch wide glossy green (turning red) fruit with just the right amount of heat to make the best salsa. Flavor is outstanding, and fruit walls are medium in thickness. GARDEN SALSA is in season for our climate and has a strong upright plant with good disease resistance.

#429 PKT 250 mgs \$3.20; 2 gms \$12.00

# Potatoes

### Solanum tuberosum

Potatoes are relatively easy to grow if a few precautions are followed. The first is NOT to plant potatoes successively in the same place, as this encourages disease and will invite the oftimes devastating Colorado potato beetle. The potato beetle can be controlled by crushing all that you see, including their orange egg clusters on the underside of leaves (ladybug egg clusters are a lighter yellow). Potatoes like a rich, slightly acid soil with plenty of compost. Avoid fresh manure which can contribute to scab.

5 lbs sows 50 feet; 10 lbs sows 100 feet.

CULTURE: Root cellared potatoes should be allowed to warm for a week before planting. Cut seed potatoes so that each piece has two eyes and is about the size of a small egg (2 oz optimal). Plant pieces 8-12 inches apart in trenches 4-6 inches deep. Plant in rows 24-36 inches apart. Hill up plants to control weeds and promote tuber production. SEASON: Cool season. Plant 4-6 weeks before last frost. Usually planted in late April or early May in Montana. SOIL: Acid sandy loam soils pH 5.0-6.5. SOIL TEMP: 50° F. COMPANION PLANT: Beans, corn, cabbage, horseradish, eggplant, NOT pumpkins, squash, cucumbers, sunflowers, tomatoes, and raspberries. PESTS: BLACK LEG: Control through planting sound tubers, keeping soil well drained. COMMON SCAB: Avoid through crop rotation, planting resistant varieties and by using only well decomposed compost. COLORADO POTATO BEETLE: Crop rotation, hand pick, mulch heavily if soil has warmed, use B.t. var. san diego or lastly, spray with pyrethrum (see page 77). SEED SAVING: Start with disease free potatoes and select from those plants which show no disease. Store in a dark humid place away from any tubers that came from diseased plants;

## Potato Variety Scab Resistance

optimum temperature 42° F.

1= no resistance 5= very resistant

Bintje	2	Ozette 4	
Butte	4	Purple Marker	1
Caribe	4	Redgold	2
Frontier	4	Sangre	2
German Yellow	4	Yellow Finn	1
Norland	2	Yukon Gold	3

# **EARLY MATURING 65+ Days**

**CARIBE** Certified Seed Potatoes

Beautiful bluish-purple skin and snow white flesh; makes the fluffiest mashed potatoes. Prolific yielder of uniform spuds. This one takes a little longer to cook.

#1548 2 lbs \$5.00; 5 lbs \$10.00; 10 lbs \$13.75

#### **SANGRE RED** Certified Seed Potatoes

Best, most popular red variety for large, classy #1 red potatoes. Very uniform. Very dark red, shalloweyed, slightly elongated, 4-10 oz. Excellent new potato, better storage than Norland.

**#1553** 2 lbs \$3.60; 5 lbs \$5.50; 10 lbs \$11.00; 50 lbs \$25.00



#### YUKON GOLD Certified Seed Potatoes

Very popular, attractive round, shallow-eyed potato. Each a yellow gem. Good storage variety, heavy yield; 2 full weeks earlier than most varieties. Excellent flavor. A favorite baked. #1557 2 lbs \$3.60; 5 lbs \$7.00; 10 lbs \$10.00; 50 lbs \$25.00



Yukon Gold potatoes

#### **NORLAND** Certified Seed Potatoes

The standard early, shallow-eyed red variety with exceptionally delicious white flesh. Moderately scab resistant and highly productive. Red skin fades to pink during storage. Earlier and better flavored than Sangre. An old favorite! #1559 2 lbs \$3.60; 5 lbs \$7.00; 10 lbs \$11.00; 50 lbs \$43.10

Control Potato Beetles safely with POTATO BEETLE BEATER, page 76.

# MID-SEASON 80+ Days

**RED GOLD** Certified Seed Potatoes

High yielder of medium sized, disease resistant tubers. Light red netted skin, rich golden flesh, and a wonderful flavor make this spud a favorite of our taste tests.

#1547 2 lbs \$5.50; 5 lbs \$12.00; 10 lbs \$15.75



#### **FRONTIER RUSSET** Certified Seed Potatoes

Excellent baker for the home gardener and market farmer. Replaces RANGER RUSSET because of its better scab resistance and earliness. Nice oblong tubers with a light russet and good starch for flaky baked potatoes. Widely adapted to various conditions with good disease resistance.

#1549 2 lbs \$3.60; 5 lbs \$5.50; 10 lbs \$11.00; 50 lbs \$45.00

# **LATE MATURING 90+ Days**

**GERMAN YELLOW, Fingerlings** 

Certified Seed Potatoes

Obtained from a source in Stevensville, Montana. They are 3-4 inches long, 1 inch in diameter with a smooth golden skin. The rich yellow flesh has a creamy texture reminiscent of sweet potatoes and a flavor beyond most ordinary potatoes. To avoid overcrowding, make sure that seed pieces have no more than four eyes per piece. Fingerlings grow closer to the surface so either plant them deeper, hill them when cultivating, or mulch lightly to prevent greening

#1551 2 lbs \$8.00; 5 lbs \$22.00



**GERMAN YELLOW fingerling potatoes** 

**OZETTE**, Fingerlings

Certified Seed Potatoes

Originally grown by the Ozette Indians in Washington state, these late-maturing fingerlings are vigorous and productive. The flavor of these white-fleshed potatoes is rich and delicious. #1558 2 lbs \$11.50

# Potatoes

POTATO SHIPMENT BEGINS APRIL 1ST

TO ORDER, PLEASE USE ROOTS AND TUBERS ORDER FORM.

#### **YELLOW FINN** Certified Seed Potatoes

A high yielding yellow fleshed variety producing large, flattened, oval shaped spuds. One of the most popular yellow potatoes, its buttery flavor lends itself to many cooking methods. Good keeper.

#1556 2 lbs \$5.00; 5 lbs \$10.00; 10 lbs \$15.30



YELLOW FINN potatoes

#### **PURPLE MARKER** Certified Seed Potatoes

Very attractive, dark purple potatoes with white veins inside; lightens when cooked. Well selected, uniform and shaped like bakers. Rich potato flavor and creamy texture; bakes up faster than most potatoes. Super mashed with cheddar cheese melted on top.

#1552 2 lbs \$5.00; 5 lbs \$10.00; 10 lbs \$17.60

#### **BINTJE** Certified Seed Potatoes

Thin yellow-brown skin, yellow flesh, smooth texture and outstanding flavor. It's no wonder these medium-sized potatoes have been a favorite since 1911. Excellent, long keeping storage variety.



#1546 2 lbs \$5.50; 5 lbs \$12.30; 10 lbs \$16.50

#### **BUTTE** Certified Seed Potatoes

A Russet with outstanding flavor, smooth texture and high yields. Produced more bakers per plant than Burbank Russet in our trials. It also has 20% more protein and higher vitamin C than other varieties. Multiple disease resistance.

#1554 2 lbs \$5.00; 5 lbs \$10.00; 10 lbs \$15.30

# Pumpkins Cucurbita pepo

LONG PIE: 95 days

This unique heirloom from Maine makes the best pumpkin pie you've ever had! It was rated tops for its full-bodied texture and flavor in our pumpkin pie bake-off. Both the shape and dark green color of this heirloom pumpkin at maturity resembles an overgrown zucchini. Don't be alarmed if the fruits are still green at the end of the season. As long as there is a true orange spot where the fruit touches the ground (like Acorn squash), it's ready for harvest. After 4-6 weeks in storage, the fruits will turn a brilliant Halloween orange and are ready for pie making!

#530 ORGANIC PKT 2.5 gms \$1.80

**ROCKY MOUNTAIN PIE: 100 days** 

Very popular pumpkin. Perfect for pies - a winner in our 1994 pie taste tests. 5-7 lb fruits with thick stringless flesh. Good keeper.

#531 PKT \$1.50; 1 oz \$7.00; 1/4 lb \$12.95; 1 lb. \$40.00

**MONTANA JACK: 95 days** 

No more green pumpkins! This is a great carving pumpkin that turns orange in a short season. Earlier than CONNECTICUT FIELD, this new variety, bred by John Navazio, has been selected for early maturity in cool northern summers.



Its thick flesh is great for making pies. Round Jack O' Lantern shape ranges from 8-15 lbs.

CULTURE: Same as Winter Squash, page 56. PKT 4 ams

#533 ORGANIC PKT \$1.50; 1/2 oz \$3.70; 1 oz \$6.50; 1/4 lb \$14.20

HARVEST MOON F,: 95 days

Our choice for a production field pumpkin and home garden variety for those who want a semi-bush Jack-O-Lantern. HARVEST MOON produces an early crop of basketball size pumpkins with an even shape and a rich, dark orange color. Best in our trials for semi-bush pumpkins because of its early maturity and quality fruit.

#532 PKT \$2.80; 1 oz \$12.00; 1/4 lb \$32.00

# Radish

Raphanus sativus

Radishes are easy to grow. Give them room and plenty of water. They are best tasting when picked young. Grow radishes as a trap plant: sow them around other plants root maggots prefer radishes, especially daikon varieties. PKT 4.5 gms 350 seeds, sows 30 feet; 1900-3600 seeds/oz.

CULTURE: Sow 1/2 inch deep, 1-2 inches apart in rows 6 inches apart. Deep bed spacing is 2 inches apart. SEASON: Cool season. Sow as soon as ground thaws and every 2 weeks after.

MIN. SOIL TEMP: 40°F. GERMINATION: 5 days. SOIL: Slightly acid pH 6.0-6.8. COMPANION PLANT: Peas, nasturtiums, lettuce, cucumbers. PESTS: ROOT MAGGOTS: Control with wood ash, diatomaceous earth, OR beneficial nematodes. Fabric row covers block pests and extend season. SEED SAVING: Cross-pollinated annual. Will cross with other varieties. To preserve genetic diversity, save seed from at least 64 plants. After bolting, harvest mature pods when brittle. When thoroughly dry, thresh, screen and winnow seeds to remove chaff. Store cool and dry.

#### MINOWASE (DAIKON): 50 days

Mild, large, elongated Japanese radish. Roots can reach up to one foot long with smooth white skin and brittle, juicy flesh. #452 PKT \$2.50

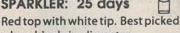
CHAMPION: 25 days



Our most popular radish year after year. Easy to grow. This tasty, red, silver dollar sized radish isn't too hot. Stands well in the garden without getting woody. AAS 1957.

#450 PKT \$1.20; 1/2 oz \$2.10; 1 oz \$3.50; 1/4 lb \$6.90; 1 lb \$14.00

SPARKLER: 25 days



when I inch in diameter.

#453 PKT \$1.20



**EASTER EGG II: 25 days** 

A blend of red, rose, pink, lavender, and white. Good round crisp radishes without pithiness. Great for children's gardens and to add color to salads.

#456 PKT \$1.50; 1/2 oz \$3.50

WHITE ICICLE SHORT TOP: 32 days



Very refined WHITE ICICLE radish. 3-4 inches long. #451 PKT \$1.10; 1/2 oz \$2.80

D'AVIGNON: 21 days

A mild, tasty French breakfast radish. Scarlet red for the top 1/3 and white tipped, these 3 inch long roots make an eyecatching snack. Medium green tops are a delicious, firstspring green for steaming.

#455 PKT \$1.50; 1/2 oz \$4.50

# Rutabaga

# Brassica napus

 $oldsymbol{A}$ Iso referred to as Swede turnip, rutabagas are grown all summer long from a late June to early July planting and harvested after a light frost. A sweet root cellaring vegetable, great in stew. PKT 1 gm 300 seeds, sows 50 feet; 1900-3600 seeds/oz.

CULTURE: Sow ½ inch deep, 2 seeds per inch in rows 12 inches apart. Thin to 6-8 inches apart. Deep bed spacing 3 inches. SEASON: Cool season. Plant 90 days before first fall frost for storage. MIN. SOIL TEMP: 40° F.

GERMINATION: 3-14 days. SOIL: Slightly acid pH 6.0-6.8. COMPANION PLANT: Peas. PESTS: FLEA BEETLES: Control with wood ashes, agricultural lime, rotenone OR beneficial nematodes. ROOT MAGGOTS: Wood ashes and fabric row covers prevent parent fly from landing. Tarpaper brassica collars keep the fly from laying its eggs near the plant. Try beneficial nematodes for IPM, but NOT with wood ashes, lime or diatomaceous earth.

## LAURENTIAN:

#### 95 days

A variety developed in Canada which has become quite popular throughout North America. Purple topped roots with pale yellow flesh. Roots are free of branching,

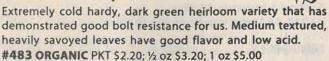
#460 PKT \$1.10; 1/4 oz \$4.95; 1 oz \$8.45; 14 lb \$27.30;1 lb \$35.00

SHALLOTS: see page 45.

#### NORFOLK: 45 days

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NORFOLK Spinach

#### **BLOOMSDALE LONG STANDING: 42 days**

Large, spreading, deep green, curled leaves. Good yielding classic home garden variety. Dependable; fairly resistant to bolting. Can be sown in fall for spring harvest in protected locations.

#481 PKT \$1.20; 1/2 oz \$1.80; 1/4 lb \$9.20; 1 lb \$12.50 #480 ORGANIC PKT \$2.20; 1/2 oz \$5.50

#### TYEE F,: 42 days

Highly recommended slow bolting variety. Dark green savoyed leaves stand upright and stay cleaner. TYEE is uniform and good tasting - a perfect summer variety for the market farmer and home gardener alike. Can also be planted in fall for first spring salads.



#485 200 seeds \$1.20; 1000 seeds \$2.40; 5000 seeds \$7.60; 10,000 seeds \$9.00

# Spinach Spinacia oleracea

Spinach will germinate in soils as cold as 35° F and is best planted in early spring or in the fall before the ground freezes. Regardless of variety, spinach usually bolts with the onset of very hot weather. Spinach likes a pH above 6.0 and will provide larger, leafier plants with richer soil. Pick early and maintain soil moisture to prevent early bolting. PKT 5 gms, 400 seeds, sows 35 feet; 36,000-55,000 seeds/lb.

CULTURE: Sow 1/4 inch deep, 1 inch apart in rows 12-18 inches apart. Thin plants to 3 inches. Deep bed spacing 4 inches apart. SEASON: Cool season. Plant 4-6 weeks before last frost. Can be planted in mid-fall for earliest spring harvest! MIN. SOIL TEMP: 35° F. GERMINATION: 7-21 days. SOIL: Acid to weakly acid pH 5.5-6.8.

COMPANION PLANT: Strawberries. PESTS: APHIDS: Control with beneficial insects, soap or tobacco sprays. DAMPING OFF: Plant thickly to maintain good stand.

SEED SAVING: Cross-pollinated annual. Will cross with other varieties. Remove early bolting plants. Let larger plants bolt. Save seed from at least 64 plants. Cut stalks when most of the seeds have ripened and dried. Strip stalks, remove chaff, store in cool dry place.

# NEW ZEALAND SPINACH

#### 55 days

#### Tetragonia tetragonioides

Not a member of the goosefoot family like regular spinach. This is a perennial plant that is harvested by trimming off the young leaves on the tips of this viny, spreading plant. Plant after last frost, harvest till first fall frost.

Culture: Soak seeds 24 hours before planting 8 inches apart in rows 24 inches apart.

#482 PKT \$1.60; 1 oz \$7.20

# Sprouts

Our sprouting seed is organically grown and untreated. Mason jars work well for sprouting seeds. Use pint size and small mouth jars for small amounts of sprouts and quart size jars with wide mouths for larger quantities. A plastic mesh held over the top with a rubberband will provide air and strain the seeds when you rinse them. To start your sprouts, soak them overnight in water. Remove any floating seed. Cover the jar with the screen; rinse and drain well. Keep sprout jar tilted into a bowl, open end down, for good drainage. Rinse sprouts at least twice daily. Different sprouts germinate at different rates and are tastiest at different sizes. We've given some guidelines at right. Exposing sprouts to sun often gives added nutrition and flavor of green growth.

Order on Line on our website: www.gardencityseeds.com

Check our site for specials and new items.

#### ALFALFA

Sprouts in 7 days. Best tasting at 1½ inch long. Readily produces green leaves.

#1030 ORGANIC 1 oz \$2.50; 1/4 lb \$5.25; 1 lb \$8.00

#### CHINA ROSE RADISH

Another spicy sprout ready in 5 days. Best eating at 1-2 inches. #1038 ORGANIC 1 oz \$3.90; ¼ lb \$6.50; 1 lb \$8.00

#### WINTER RYE

A sweet sprout for salads and bread making. Sweetest at 1/4-1/2 inch. Only 2 days to germinate.

#1011 ORGANIC 3 lbs \$5.50; 10 lb \$10.00; 25 lbs \$15.00

#### **RED LENTILS**

Germinates in 4 days. Red-colored. Susceptible to mold after 1 inch long. Use fresh, sauteed or in bread.

#1034 ORGANIC 1 lb \$4.50

#### SUNFLOWERS

One of the best flavored sprouts - both buttery and nutty. Grows 4-6 inches in 10 days

#1035 ORGANIC 1/2 lb \$5.10; 1 lb \$8.50

#### **FENUGREEK**

Gold seed is an attractive addition to salads. Pungent and distinctively flavored. Best eaten when ½-1 inch long and with other sprouts.

#739 ORGANIC 1 oz \$5.00; 1/2 lb \$15.50; 1 lb \$19.00

#### DE CICCO BROCCOLI

Best tasting of the broccoli varieties when sprouted. Sweet! Sprouts in 5 days. Best eaten when 1 inch long.

#101 ORGANIC 1/2 lb \$10.00; 1 lb \$15.00; 5 lb \$39.00

Many kinds of vegetables have compounds that help to prevent and fight disease. These compounds are called phytonutrients. Very often the color of certain vegetables indicate the presence of these compounds, and the intensity of the color can mean higher levels of these phytonutrients. Below are some examples and their reputed health benefits.

Phytonutrient Compound	Associated Color	Vegetable Found In	Health Benefits	
Anthocyanin	Purple	Purple Carrots, Red Cabbage, Purple Beans, Red Orach, Red Leaf Lettuce	Retards Cardiovascular Disease and Cancer; Anti-oxidant.	
Beta-carotene	Orange	Carrots, Apricots, Winter Squash, Sweet Potatoes, Muskmelon	Cancer Preventative, Source of Vitamin A	
Lycopene	Red	Tomatoes, Red Carrots, Watermelon	Prostate, Stomach, Colon, and Rectal Cancer Preventative	
Lutein	Yellow	Yellow and Green Summer Squash, Winter Squash	Prevents Loss of Eyesight from Macular Degeneration	
Folic Acid	Not color associated; usually green leafy vegetables.	Beets, Beet Greens, Spinach, Kale, Collards, Swiss Chard, Broccoli	Stroke and Cardiovascular Disease Preventative. Prevents Birth Defects (Spina Bifada)	
Allicin	Not color associated.	Garlic, Onions	Antiviral, Antibacterial; Lowers Serum Cholesterol Levels	

## **ZUCCHINI SQUASH**

**DARK GREEN: 50 days** 

Produces small uniform fruit of high quality usually found only in hybrids. Dark green with light flecks, good production, and an authentic zucchini flavor.

#500 PKT \$1.20; 1/2 oz \$3.30; 1 oz \$5.00; 1/4 lb \$9.60

#501 ORGANIC PKT \$1.60; 1/2 oz \$4.30

SENECA F,: 42 days

After extensive trials, we saw no other Zuke that surpassed SENECA for earliness, uniformity, and outstanding production. Fruits are cylindrical, medium green with grey flecks, slightly expanding at the blossom end. The plant habit is open for easy picking and you'll be picking a lot with this endlessly reliable variety.

#502 PKT 20+ seeds \$1.20; 100 seeds \$4.50; 500 seeds \$11.00

COCOZELLE: 53 days

Popular Italian variety with striped fruits. Quick maturing and flavorful.

#503 PKT \$2.50; 1/2 oz \$6.40; 1 oz \$8.00

GOLDEN DAWN II F,: 45 days

Best of the golden zucchinis. More uniform and without the off types of GOLD RUSH. Striking golden color, productive throughout the season. Plant is semi-spineless, too. High marketable yield for truck farmers.

#508 PKT 2.5 gms \$2.70; 1/2 oz \$9.00

# SUMMER SQUASH

t!

EARLY PROLIFIC STRAIGHTNECK: 50 days

Lemon yellow; like crookneck except straight. Best eaten when 4-7 inches long. An abundant producer of high quality fruits with a firm, fine grained flesh. AAS 1938.

#507 PKT \$2.00; ½ oz \$5.70; 1 oz \$7.00 #510 ORGANIC PKT \$2.60; ½ oz \$7.50

# EARLY SUMMER YELLOW CROOKNECK: 58 days

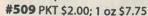
The best summer squash for buttery, rich flavor and tender, but firm texture. Pick when 5-6 inches long. Produces all season long.

#504 PKT \$1.20; ½ oz \$3.50; 1 oz \$5.00; ¼ lb \$13.60 #505 ORGANIC PKT \$1.60; ½ oz \$4.60

### **ZAPALLITO DE TRONCO: 60 days**

Cucurbita maxima

Back by popular demand. Dark green, round, glossy fruits. Interiors are golden and flavorful with an appealing texture; a new taste in summer squash. Can be eaten when small (2½-4 inches) as a summer squash or left to mature to the fully ribbed state and used as a winter squash.





# Summer Squash

Cucurbita pepo

Summer squash provides an abundance of food with little space, while winter squash can be stored to enhance winter diet. Squash is not frost tolerant. It likes nitrogen-rich loamy soil and partially rotted manure and compost. Compost heats up the soil providing for good germination. Like cucumbers, squash can be transplanted out in peat pellets, but care should be taken not to disturb the roots, as this will stunt growth. All summer squashes are best harvested young.

50 plants per 100 feet, 2 plants per person.

PKT 4 gms 20-80 seeds; 2500-4200 seeds/lb (seed size varies between varieties).

CULTURE: Sow directly 1 inch deep, 3-4 seeds per foot in rows 4-5 feet apart (3 feet apart for summer bush varieties). Thin to 18 inches apart in rows. If planting in hills, sow 5-6 seeds per hill and later thin to 3 plants. Hills should be 3-4 feet apart. SEASON: Warm season. Plant after last frost. MIN. SOIL TEMP: 60° F. GERMINATION: 4-7 days.

SOIL: Slightly acid pH 6.0-6.8.

COMPANION PLANT: Nasturtiums and corn.

<u>PESTS</u>: SQUASH BUG: Plant nasturtiums or radishes nearby. VINEBORER: Clean tillage. BACTERIAL WILT: Remove affected plants, and control CUCUMBER BEETLE with heavy mulch and beneficial nematodes. MOSAIC: Control aphids and perennial weeds.

SEED SAVING: See Winter Squash on next page.

Market Farm Tips

Large production from few plants is the rule with most summer squash. 300 lbs of fruit from 100 feet of row is not uncommon. Two plantings, mid-May and mid-June, can be made in the same year for continuous production. Most summer squash and zucchini are best picked young, about 4-8 inches long. When plants are at the height of production they must be picked every 2-4 days depending on heat and fertility. Consistent picking stimulates fruit production. Refrigerate after harvest.

## PATTY PAN SQUASH

#### SUNBURST F,: 52 days

Beautiful ornamental scallopini. Bright glossy yellow with bright green blossom scar. Productive, tender, good tasting. AAS 1985. #506 PKT 2.5 gms \$2.50;

1/2 oz \$12.00



# Winter Squash

Cucurbita pepo

Squash is not frost tolerant and will not germinate in soils colder than 60°F. It likes soil with lots of compost and rotted manure. Like cucumbers, s q u a s h c a n b e transplanted out in peat pellets, but care should be taken not to disturb the roots, as this will stunt growth. Before frost harvest all winter squash that resist a fingernail scratch or whose stems are cured and hard. Cure in a well-ventilated room at 75-80°F. for 7-10 days. Quick curing inside can be done by exposing squash to 80°-90°F. for 3-5 days. Optimum storage is between 50-60°F. and low humidity. Any frost damage will severely affect keeping quality.

50 plants per 100 feet. 4 plants per person.

PKT 4 gms 20-80 seeds; Maxima 2000-3000 seeds/lb. Pepo 4300-6000 seeds/lb. Seed size varies between varieties.

<u>CULTURE</u>: Plant 3-4 seeds per foot, 1 inch deep in rows 4-5 feet apart (3 feet apart for bush varieties). Thin to 18 inches apart in rows. If planting in hills, sow 5-6 seeds per hill and later thin to 3 plants. Hills should be 3-4 feet apart.

SEASON: Warm season. Plant after last frost. MIN. SOIL TEMP: 60° F. GERMINATION: 4-7 days.

SOIL: Slightly acid pH 6.0-6.8.

COMPANION PLANT: Nasturtiums and corn.

PESTS: SQUASH BUG: Plant nasturtiums or radishes nearby. VINEBORER: Clean tillage. BACTERIAL WILT: Remove affected plants, and control CUCUMBER BEETLE with heavy mulch and beneficial nematodes. MOSAIC: Control aphids and perennial weeds. SEED SAVING: Cross-pollinated annual. There are 4 species of squash. Plant only 1 variety per species to prevent crosses: 1) Cucurbita pepo: summer squash, acorns, delicatas, spaghetti squash, and most pumpkins; 2) C. maxima: buttercups, hubbards, kabochas, and giant pumpkins; 3) C. moshata: butternuts; 4) C. argyrosperma: cushaws. Save seed from at least 16 plants if possible. Harvest winter squash at edible stage. Let summer squash get big and hard. Remove seeds from pulp. Wash carefully and spread out to dry on screens. Store cool and dry.

Market Farm Tips

WINTER SQUASH: Squash planted after May has significantly less chance of reaching maturity in most years. Plastic row covers early in the year greatly shorten maturity and increase yield. Care should be taken during harvest to not bruise squash by dropping. When piling in storage facility, cull out fruit with knocked off stems.

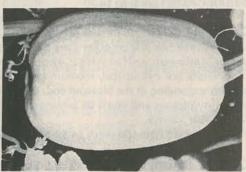
TABLE KING acorn squash



#### TIVOLI SPAGHETTI F,: 85 days

TIVOLI was very impressive in trials for its true bush habit and exceptional vigor, earliness and hardiness. TIVOLI will produce 5-6 fruits per plant no matter what the conditions. Especially tolerant to drought. Bred by Sakata, the originators of VEGETABLE SPAGHETTI. AAS 1991.

#525 PKT 2.5 gms \$2.30; 1/2 oz \$9.30; 1 oz \$13.75



TIVOLI Spaghetti Squash

O NEW!

#### EARLY BUTTERNUT F,: 80 days

Cucurbita moschata

We keep getting requests for Butternuts from our customers. Our reponse was always that they don't mature well here except for EARLY BUTTERNUT HYBRID, which we didn't carry. We would try to steer them toward the northern friendly and delicious maxima squashes like DELICA F-1 and JADE A F-1. If you must have a Butternut the only one to grow up here is EARLY BUTTERNUT F-1. The 10-12 inch buff fruits are uniform and the semi-bush plants are quite productive. Good,

sweet Butternut squash flavor. AAS #526 PKT \$1.60; ½ oz \$3.70; 1 oz \$8.00; ¼ lb \$26.90

DELICATA: 100 days

Specially selected uniform strain! Oblong striped fruits, 8 inches long and 3 inch diameter. Delicious, fine grained, orange-yellow flesh. Tastes better than BUTTERNUT! One of our best keepers and grows well here in the Bitterroot. #512 ORGANIC PKT \$2.75; ½ oz \$8.70; 1 oz \$13.20

## TABLE KING ACORN: 80 days

Green-black fruits on compact bush plant. Smaller than EBONY or TABLE QUEEN but earlier maturing with darker skin. Productivity and quality compare well to more expensive hybrids. AAS 1974.

#513 PKT \$1.40; ½ oz \$3.90; 1 oz \$5.50; ¼ lb \$12.75

**GOLD NUGGET: 80 days** 

Early, family sized (1-3 lb) squash, orange-red with faint salmon colored stripes. Sweet orange flesh is thick and fiberless. Yields about 4 fruit per bush type plant. Perfect for small spaces. A good keeper. Bred at the North Dakota Experiment Station for the north. AAS 1966.

#511 PKT \$2.80; 1/2 oz \$7.90; 1 oz \$ 9.50



GOLD NUGGET squash

DELICA F, Kabocha Type: 92 days

Growers across the state rank this as the best Kabocha type squash. 4-6 lb flat globe-shaped fruits are dark green with lighter green striping. After curing, the dry, nutty, exceptionally sweet orange flesh is a unique culinary experience. DELICA is reliably early and productive in Montana. Store for 4-6 weeks before eating for maximum sweetness. Stores well.

#522 PKT 2.5 gms \$3.50; ½ oz \$18.00; 1 oz \$32.80

JADE A F,: 92 days

JADE A has everything going for it. It has the highest provitamin A carotene content of any squash we've seen. Our taste test judges rank it near top for sweet, mild flavor and

not-too-wet, not-too-dry texture. Its dark green exterior and deep orange interior in a heart shaped fruit gets lots of compliments. Each JADE A plant produces 4-5 early maturing fruits averaging 8 lbs each. JADE A also



contains high levels of the pigment lutein, one of the strongest and most effective anti-oxidents identified by the USDA. Nutritious and delicious. Who could ask for more? #514 ORGANIC PKT \$2.50; ½ oz \$7.00; 1 oz \$12.20

MOOREGOLD: 95 days

Good flavor even when not fully ripe. Even more productive than most buttercups. Smooth orange skin with salmon

1 oz \$15.40



n n

stripes and bright orange flesh. Freezes well. Fruit size is perfect for one family meal. Developed at the University of Wisconsin by Professor J. G. Moore in the 1940's and still rates tops in flavor! #529 ORGANIC PKT \$3.20; ½ oz \$10.00;

# Winter Squash

Cucurbita maxima

Maxima squash (this page) should be cured for one week at 80°F. Pepo squash (previous page) do not need to be cured. Both types store well in dry, cool conditions, 55-60°F (in the pantry or under a bed).

**SWEET MEAT: 95 days** 

Hubbard sized fruits with near Buttercup sweetness. Fruits up to 20 lbs on fields with good fertility. Round fruits, slightly flattened, with hard blue-grey shell.

**#523 ORGANIC PKT \$2.50** 

**BITTERROOT BUTTERCUP: 98 days** 

The first newly reselected Buttercup strain to appear in many



years! Our own BITTERROOT BUTTERCUP exhibits a uniform shape with square shoulders and small cup size that means thicker flesh on the inside. Texture is smooth and creamy and the flavor is superb. Sizes range from 2½ to 4 lbs, smaller than other strains, hence better for market. Also better keeping quality due to the predominance of small cups.

Organically grown in Dixon, Montana by the Baty family. **#521 ORGANIC** PKT \$2.20; ½ oz \$4.20; 1 oz \$6.90; ¼ lb \$25.50

NEW ENGLAND BLUE HUBBARD: 100 days
Huge Hubbard type squash that brings in plenty of customers' praise. Vigorous and quick maturing for its size. 30-45 lb fruit. Thick orange flesh; fine grained and good flavored.
#518 PKT \$1.60; 1 oz \$7.10



**NEW ENGLAND BLUE HUBBARD** 

# Strawberries

Fragaria x Ananassa

<u>CULTURE</u>: Strawberries are shallow rooted and need good drainage. Spread the roots out when planting. In poorly drained soils, plant in hills. They must be well-watered, especially in the blossoming and fruit setting stage. Store roots in the refrigerator and plant as soon as the ground can be worked.

The everbearing variety produces few runners and can be planted in 3-4 row beds at a spacing of 1 foot in all directions, with 2 feet between beds. Remove all blossoms on newly set out plants until July 15. Remove runners in the first season to get bigger berries. In subsequent seasons allow just enough runners to fill in spaces where plants have died and remove all of the rest.

The June bearing variety produces many runners and should be planted in single rows 2-3 feet apart in beds 2-3 feet wide. The first blossoms should be removed so the plants will produce runners. As runners grow from the mother plant, spread them out similar to spokes on a wheel. When the bed is filled so that runner plants are about 3-4 inches apart, cut off all subsequent runners. A little straw (NOT hay) mulch helps retain moisture and keeps rot down by keeping the berries off of the soil.

SEASON: Everbearing plants produce a small to medium crop in early summer, undergo a rest period, then resume bearing through the summer and fall. June bearing plants produce heavily in early summer only. SOIL: Rich, well drained, high in organic matter. Slightly acid pH of 5-6. PESTS: Our plants are certified virus free. This eliminates most problems with pests and diseases. STRAWBERRY WEEVILS: Beneficial nematodes. DEER: see DEER BLOCK, page 73.

LIFE EXPECTANCY: 2-3 years of strong fruit production.

#### FORT LARAMIE

Everbearing-Virus Free

Extremely hardy, down to -30° F without mulch. Local favorite for high production, large size and great flavor fresh or frozen. Fruits on runners; good for hanging baskets. Sets fruit twice a season.

**#1560** 12 (1 lb) \$5.00; 25 (2 lbs) \$7.00; 50 (4 lbs) \$11.00; 100 (8 lbs) \$18.00

HONEOYE, "on-o-way" Junebearing-Virus Free

Very winter hardy, mid-season, high yielding variety with

medium to large berries. Great sweet flavor and dark red interior. Pick berries often to avoid rot. #1561 12 (1 lb) \$5.00; 25 (2 lbs)

\$7.00; 50 (4 lbs) \$11.00; 100 (8 lbs) \$18.00



#### QUINAULT

Everbearing-Virus Free

Widely adapted, very productive variety with great flavor. Developed at Washington State University, QUINAULT bears large (2 inch) sweet berries on vigorous disease resistant plants.

#1563 12 (1 lb) \$5.00; 25 (2 lbs) \$7.00; 50 (4 lbs) \$11.00; 100 (8 lbs) \$18.00

Shipment of Sun Roots and Strawberries will begin April 1st.

To order use the Root and Tuber Order Form.

#### STAMPEDE

This winter hardy variety is especially high yielding and rnatures earlier than most varieties. The large white root is native to North America and can be eaten raw in salads or cooked like a potato.

**#1510** 1 lb \$7.00; 2 lbs \$9.00; 5 lbs \$18.00

#### FUSEAU

Early, elongated smooth skinned variety. Easy to clean. Spreads rapidly and and grows larger! Sweeter than STAMPEDE, yet doesn't bloom as readily. #1511 1 lb \$7.00; 2 lbs \$9.00; 5 lbs \$18.00





# Sun Roots

Helianthus tuberosus

#### JERUSALEM ARTICHOKES

Sun Roots are very hardy perennials related to sunflowers and grown for their crisp root. The root is a gourmet delicacy that can be eaten raw in salads or cooked like a potato. They have a spreading habit, so give them room. Harvest in late fall (after frosts) or mulch and harvest in the spring. Vegetation is frost tolerant. A great food crop for high altitude gardeners.

#### **BRIGHT LIGHTS:**

59 days

Beautiful rainbow of mixed colored stems. Yellow, gold, orange, pink, and striped in addition to the standard red and white. Leaf color is green. dark green, or bronze. Eyecatching in both salads and landscapes. Adapted for multiple cuttings. AAS 1998

#554 PKT\$3.00; 1/2 oz\$6.00; 1 oz\$9.70



#### SILVERADO F,: 55 days

A truly superior green chard for farm and garden alike. SILVERADO has several advantages over other green chards. The glossy green leaves are the darkest we've seen and contrast nicely with the broad white succulent stems. It also gets top marks for its fine flavor and texture. Perhaps best of all, SILVERADO plants are compact (perfect for bunching), adding efficiency and manageability of harvest.

#553 PKT \$2.10; 1/2 oz \$4.50; 1 oz \$8.00



SILVERADO F,

# Swiss Chard

Beta vulgaris cicla group

Chard is a great mid-summer green which grows well in the heat. It lasts through the fall's first few light frosts. 5 feet per person.

PKT 5 gms 350 seeds, sows 30 feet; 1600-2500 seeds/oz.

<u>CULTURE</u>: Sow in the spring, 8-10 seeds per foot, in rows 18-24 inches apart. Thin plants to 8-10 inches apart. Deep bed spacing 10 inches apart.

SEASON: Cool season. Plant 2-4 weeks before last frost and every 2 weeks thereafter. Likes hot weather.

SOIL: Slightly acid pH 6.0-6.8. MIN. SOIL TEMP: 40° F. PESTS: ANTHRACNOS: Control through clean tillage.

SEED SAVING: Cross-pollinated biennial. Will cross with other varieties and beets. Winter over in garden. To preserve genetic diversity, save seed from at least 64 plants. The following spring, cut seed stalks after seed balls are dry. Strip seed balls from stalks, winnow chaff, store cool and dry.

#### **RUBY RED: 59 days**

A very popular red chard. Dark green leaves with crimson red stalks and veins. Plant after spring frosts to avoid bolting. #551 PKT \$2.00; ½ oz \$4.45; 1 oz \$7.90; ¼ lb \$9.00 #555 ORGANIC PKT \$2.60; ½ oz \$5.80

**CANDY STRIPE:** crop failure

# Storage Requirements of Harvested Vegetables

The conditions necessary for long-term storage of vegetables varies according to the crop. Both temperature and moisture are important factors. Here are preferred storage conditions for common storage crops:

Cold and Very Moist (32-40° F and 90-95% relative humidity): Carrots, beets, parsnips, rutabagas, turnips, celery, Chinese cabbage, kohlrabi, leeks, broccoli (short-term), brussels sprouts (short-term), horseradish, sun roots.

Cold and Moist (32-40° F and 80-90% relative humidity): cabbage, cauliflower (short-term), apples, endive (escarole).

Cool and Moist (40-50° F and 85-90% relative humidity): Potatoes, cucumbers, sweet peppers (45-55° F), ripe tomatoes.

Cool & Dry (35-40° F and 60-70% relative humidity): Garlic, onions, green soybeans in the pod (short-term).

Moderately Warm and Dry (50-60° F and 60-70% relative humidity): Dry hot peppers, pumpkins, winter squash.

Here are a few "Do's and Don'ts":

DO: Keep produce in small piles, not in large mounds. Handle produce carefully. Check food often and weed out questionable specimens. Store only your best, most sound, mature fruits. Keep vegetables as cool as possible between harvest and storage. Provide ventilation. Cut leafy tops of root vegetables back to within an inch of the crown before packing. Harvest storage produce in cold weather when soil is dry. Keep containers raised several inches above the floor so air can circulate around them. Pack root vegetables in sand or sawdust that is damp but not so soggy that it encourages rot or sprouting. If your cellar is dry, you may need to add a bit of moisture to the packing material once or twice during the winter.

<u>DON'T</u>: Wash roots before storing them. Put vegetables directly on a bare concrete floor. Store insect-damaged, bruised, or immature produce. Keep onions, garlic, squash, or pumpkins in a damp place. Store stemless squash or pumpkins.

# Tomatoes

Lycopersicon esculentum

Tomatoes were originally a tropical perennial plant. Only patient, dedicated effort by plant breeders over many years has made growing them in northern climates "fruitful". Tomatoes should be started indoors and maturity dates are from transplanting. Tomatoes like a similar, but richer soil than peppers. Phosphorus is important, but go easy on the nitrogen or you will have all leaf and few fruits. Tomatoes should not be set out uncovered until night time temperatures reach at least 45° F. Like peppers, row covers and plastic mulches help with warmth early in the year. Select stocky vigorous plants. Plant them deep, burying a portion of the stem.

50 plants per 100 feet; 4 plants per person. PKT approx. 50 seeds; 6875-12,500 seeds/oz.

<u>CULTURE</u>: Plant in flats and thin to 2 inches apart after first two true leaves have appeared. Maintain temperatures between 65°-75°F. for 5-7 weeks. Try to maintain even growth, transplant to larger containers if plants get too large. Transplant 18-24 inches apart in rows 30-36 inches apart. Staked or caged tomatoes can be spaced 10-16 inches apart in both directions. Maturity date is from transplanting. <u>SEASON</u>: Warm season. Transplant the first week in June, when soil has warmed.

SOIL: Slightly acid pH 6.0-6.8. MIN. SOIL TEMP: 75° F. GERMINATION: 5-14 days. COMPANION PLANT: Chives, onions, parsley, asparagus, marigold, carrot, nasturtium. NOT kohlrabi, potato, fennel, cabbage. PESTS: BLOSSOM END ROT: Provide adequate calcium, keep watered during hot, dry periods that follow extended moist periods. MOSAIC: Avoid tobacco products when handling transplants. TOMATO HORNWORM: Use Bt var. kurstaki. COLORADO POTATO BEETLE: Bt var. san diego. SEED SAVING: Selfpollinated annual. Separate different varieties with other crops for a distance of a couple of yards. Some variation does exist within most of our non-hybrid tomatoes, so save seed from a minimum of 8 tomato plants of any one variety. Pick ripest, best looking fruit, scoop out seeds and pulp and place in an open container to ferment for 4 days at room temperature. Stir twice a day. For small amounts make sure the container is small enough so that the pulp stands at least a few inches thick so that you can remove the mold after fermentation is completed. Rinse with water, allowing dead seeds and scum to float off the top.

# DETERMINATE/ INDETERMINATE

Determinate plants have moderate vine growth and set fruit in a concentrated period. Indeterminate plants have unlimited vine growth and continue to set fruit until frost.

## **EXTRA EARLY VARIETIES**

SIBERIA: 55 days

Extremely dwarfed thick-stemmed plant able to set fruit in very cool weather (reports of 38°F). 3-7 oz fruits depending on thinning of abundant fruit set. Suitable for containers and extreme climates. Determinate.

#567 ORGANIC PKT \$2.50; 500 mgs \$5.00

#### STUPICE: 55 days

Popular vigorous potato-leaved plants yield abundant, early

3-6 oz fruits. Good leaf cover results in high quality round, crimson fruit. It has won awards for its exceptional flavor in Seattle community garden taste-offs. Wellappreciated for its ability to ripen early. Bred in Czechoslovakia. Semi-determinate.



**#569 ORGANIC** PKT \$1.50; 500 mgs \$2.95; <sup>1</sup>/<sub>8</sub> oz \$9.95; ½ oz \$34.60

#### PRAIRIE FIRE: 55 days

Very tasty, nice quality 3 inch 3-4 oz fruits on a compact plant with good foliage. Developed by Ken Fisher of Fisher's Garden Store. Determinate.

#564 ORGANIC PKT \$2.00; 500 mgs \$4.00

#### **ROCKET:** 55 days

Very prolific and hardy variety with slightly acid 2½ inch, 2 oz fruits. Bush plant that may need some support to hold up huge yields. Determinate.

#560 ORGANIC PKT \$1.80; 500 mgs \$2.40; 1/8 oz \$8.00

#### **GLACIER:** 56 days

Excellent variety originating in Sweden. Matures at almost the same time as ROCKET. Fruits are slightly larger than ROCKET: 2½-3 inches, 2-3 oz and sweet. Unique-looking plant with elongated leaves and open habit, making picking easier. Determinate.

#561 ORGANIC PKT \$2.35; 500 mgs \$4.00; 1/8 oz \$13.60

#### IDA GOLD: 58 days

We reintroduced IDA GOLD because of its all around quality,

earliness and flavor. Hardy plants yield a concentrated fruit set of 2 oz oblong fruits even under extreme conditions. These attractive orange beauties have a sweet, fruity flavor and are preferred as an early basket tomato for market. Determinate.



**#583 ORGANIC PKT \$1.90** 

### **EARLY VARIETIES**

#### NATIVE SUN F,: 60 days

More productive and better flavored than TAXI, this yellow slicing tomato bears abundantly on a compact vine. Earliness like subarctic varieties, but with huge 6-10 ounce fruit! Determinate.

**#582 ORGANIC** PKT \$1.40; 500 mgs \$2.00; <sup>1</sup>/<sub>8</sub> oz \$5.50



#### SILETZ: 60 days

Improved OREGON SPRING type bred by Dr James Baggett. Considerably larger average fruit size with an earlier peak yield. Large, healthy plant with good leaf coverage. Earliest true slicer in our trials. Fruit size is reliable up into the 10 oz. range. Sets fruit in cold weather like OREGON SPRING and many of the first fruits are seedless. Highly recommended. Determinate. VW.

#565 ORGANIC PKT \$1.90; 500 mgs \$2.80; 1/8 oz \$11.20

#### **OREGON SPRING: 60 days**

Large northern tomatoes with real tomato flavor! OREGON SPRING has a compact plant good for small gardens. Like SILETZ this tomato can set fruit with cool northern nights that stop other large fruited types cold. Highly recommended. Determinate. VW.

#566 PKT \$1.20; 500 mgs \$2.50; 1/8 oz \$7.80

# EARLY GIRL F,:

Very popular, early variety. Excellent flavored 4-6 oz rich red globe-shaped fruit. Very reliable and productive plant for slicer sized fruit. Produces even in difficult growing conditions. Indeterminate. VW, FW, TMV, RN. #577 PKT \$2.50; 500 mgs \$4.70; <sup>1</sup>/<sub>8</sub> oz \$24.80



## KEEPER

#### LONG KEEPER: 82 days

Picked in the fall before the frost, the 6 oz. orange-red fruits will sometimes last in storage all winter. Unwrapped and placed on open shelves, LONG KEEPER consistantly lasts 6-12 weeks. Slice them open and you will be greeted by a bright red color and good tomato flavor. Substitute for RUBY TREASURE that is unavailable this year. Indeterminate.

#572 PKT \$1.80; 500 mgs \$3.60; 1/8 oz \$11.50

**RUBY TREASURE**: crop failure

### **MID-EARLY VARIETIES**

#### MEDINA F,: 65 days

MEDINA will give you 5-6 delicious, crack-free fruits per plant on your first picking and then keeps on producing on determinate, disease-free vines until the end of the season. MEDINA has proven to be an outstanding field grown tomato. Success stories come from fresh market growers across the north. Determinate. VW, FW, S, C.

#578 PKT \$3.50; 200 seeds \$12.00; 500 seeds \$25.00



MEDINA F, tomatoes

#### DONA F,: 68 days

Outstanding in our '93 trials for productivity, size, vigor and flavor. Fruits have a wonderfully balanced sweet/tart taste. Fruits are 5-6 oz, flattened, globe-shaped with good crimson color. Vigorous vine, excellent for trellising, cold frames, or staking in the field. Indeterminate. VW, FW, TMV, N. #576 PKT \$3.25

#### BETTER BOY F,: 72 days

Popular and widely adapted mid-season slicing tomato. Fruits are large, deep globe shaped, averaging about 8 oz. Plant is a vigorous indeterminate with lots of production potential. Very popular for bedding plant sales. Indeterminate. VW, FW, N, ASC, S.



#575 PKT \$3.50; 500 mgs \$5.50

## LATE

#### **BRANDYWINE: 80 days**

There is no denying that this variety has flavor. It has always ranked high in our yearly taste tests and has gained considerable popularity recently. This Amish heirloom dates back to Pennsylvania in the 1880's and yields large (up to 16 oz.), semi-flattened, deep red fruits on a large indeterminate vine. The yield is moderate and the fruits are often variable, but the flavor is excellent. Montana is not the ideal state for growing this variety, as it has great trouble maturing in our climate. Protective culture, such as cloches or cold frames, will help you to fine ripen these delicious fruit. Indeterminate.

#597 ORGANIC PKT \$2.00; 500 mgs \$6.00

# Tomatoes

### PASTE

SAUCY PASTE: 65 days .0

Heavy yielding, plum shaped, 31/2 oz. sauce tomato. Fruits are meaty and borne in clusters of 5-10 fruits. Fruit set is concentrated to one picking and fruit pulls off the plant easily when ripe perfect for a big salsa or ketchup canning session. Flavor is very good both fresh and processed. Strong plant holds fruit well off the ground. Bred by Dr. James Baggett, Oregon State University, from a cross of SANTIAM X ROMA. Determinate.

#580 ORGANIC PKT \$1.60: 500 mgs \$3.00; 1/8 oz \$9.80



VITA GOLD F.: 68 days

A high beta-carotene plum or saladette tomato that's good for canning, drying or sauce. Unlike Caro-rich, the other common high carotenoid variety, VITA GOLD matures in short season climates and the firm "saladette" type fruit is much more versatile. The golden 3 oz tomatoes were rated good by our taste testers with a unique rich flavor. At least 5 times the beta-carotene of other tomatoes. Determinate V,F1, F2, RKN, A

#568 PKT \$1.90; 500 mgs \$6.40



NEW!

**BELLSTAR: 68 days** 

Great flavor and large 21/4 inch diameter, 4 oz paste tomato. Always a reliable producer in Montana: Plant in May as a main season slicing tomato! Open plant with fruit concentrated at the center for easy picking. Determinate. #581 PKT \$2.00; 500 mgs \$4.00; 1/8 oz \$14.00

#### MULCHING & COMPETITION:

TWO POWERFUL TOOLS TO CONTROL WEEDS ORGANICALLY

Many customers ask us how to control weeds without chemicals. Nontoxic weed control requires more consideration and labor than herbicides. As weeds fill their particular ecological niche, they tell us about the condition of the soil. Careful observation of when and where particular weed populations occur can help you to figure out appropriate control strategies.

Integrated Pest Management - Using "many small hammers" as opposed to the big chemical hammer is the basis of Integrated Pest Management (IPM). IPM begins with learning about the habits of the weeds you are trying to control: What conditions are you providing? What's going on in the root zone? Often the combination of cultural, mechanical, and biological techniques work well.

Cultural - The way you grow often determines your weed problems. For example: Rototilling quackgrass can actually cause it to multiply. Leaving bare soil exposed invites weeds. Letting the first flush of annual weeds grow and then turning them under before they go to seed utilizes their biomass. Crop rotation in and out of pasture grass (row crops suppress perennial weeds, pasture grass suppresses annual weeds). Irrigated and mowed grass communities control knapweed. Intensive planting techniques can shade out weeds.

Competition - Heavy weed populations can be suppressed by tilling the land and planting highly competitive crops like BUCKWHEAT, OATS, and WINTER RYE. We have had great success with WINTER RYE out-competing quack grass. Multiple plantings and plowing under of cover crops not only disrupts weed lifecycles, but builds soil structure and increases nutrients. Mulching - Depriving weeds of light and water by the use of weed mats and other mulches is often effective. In the Bitterroot Valley we have had excellent results controlling spotted knapweed by mowing it and immediately applying a thick layer of mulch (moldy hay, livestock bedding, leaves, etc.). Mowing the cover crops in the pathways of our gardens yields fresh mulch that can actually add nitrogen to our crops.

Biological - Livestock can eat weeds and produce manure. Sheep and goats are particularly well known for their ability to control leafy spurge and knapweed. Intensive grazing can stress weed energy reserves, making them more susceptible to other control methods, including the introduction of weed-eating insects and microbial pathogens.

Resources - Alternative Energy Resource Organization (AERO), 406-443-7272, 25 S Ewing, Suite 214, Helena, MT 59601

Appropriate Technology Transfer and Referral Assistance (ATTRA), 800-346-9140

National Center for Appropriate Technology NCAT), 406-494-4572, PO Box 3838, Butte, MT 59702

Northwest Coalition for Alternatives to Pesticides (NCAP), 541-344-5044, PO Box 1393, Eugene, OR 97440 Bio-Integral Resource Center, P.O. Box 7414, Berkeley, CA 94707

Weeds & What They Tell, on page 79.

Noah's Garden: Restoring the Ecology of Our Own Backyards, by Sara Stein, Houghton Mifflin Co., 1993. My Weeds, by Sara Stein, Houghton Mifflin Co., 1994.

### CHERRY

#### GOLDEN NUGGETT:

#### 56 days

Outstanding producer of golden yellow 11/2 inch tasty cherries. GOLDEN NUGGETT is getting rave reviews from around the country for its ability to set an early, abundant crop of these



delicious morsels, even with cool nights. Production is very high, covering the plant with fruit. Best of all, it makes phenomenal sundried tomatoes. Determinate.

#584 ORGANIC PKT \$1.80; 500 mgs \$3.00

#### **GARDENER'S DELIGHT: 68 days**

Very sweet, red fruit borne in clusters. One of the best flavored cherry tomatoes. Plant needs staking and should be given plenty of room. Indeterminate.

#592 PKT \$1.30

#596 ORGANIC PKT \$2.20; 500 mgs \$4.30; 1/80Z \$11.20; 1/2 oz \$26.50

#### **WASHINGTON CHERRY:** 60 days

Early bush Cherry tomato that produces larger, round 11/4 oz. fruit. Thick walled and flavorful with good keeping characteristics. Finally a decent early cherry with a compact plant! Developed at Washingotn State University. Determinate. #595 ORGANIC PKT \$2.50; 500 mgs \$4.00

#### SUNGOLD F,: 62 days

We couldn't not carry this one. Orange 1 inch fruit are very sweet with what has been variously described as a citrusy, tropical, or winey flavour. Absolutely delicious any way you describe it! Early enough for our climate. Good producing, huge vines. Indeterminant.

**#590 ORGANIC PKT 25 Seeds \$3.90; 50 seeds \$6.00** 

#### SUGAR CHERRY: 63 days

After searching for a truly tasty, very early maturing cherry tomato, we've finally struck gold. SUGAR CHERRY produces a steady yield of I inch diameter red fruit that will have you picking the patch every time you're in the garden. It has a wild currant tomato heritage that makes it hardy and vigorous. Best of all, it has real tomato flavor. Indeterminate.

#591 ORGANIC PKT \$1.60; 500 mgs \$3.50

# Tomatoes

#### SUPER SWEET 100 VF: 65 days

The standard for flavor and productivity in cherry tomatoes. Very sweet 1 inch fruit on long clusters. Indeterminant plants must be staked.

#594 PKT \$3.50

## CURRANT: Lycopersicon pimpinellifolium

### CHERRY BABY: 70 days

The first currant tomato (besides our LEMON DROP) with good flavor: nice sweet-tart balance without the bitterness and toughness of most currant varieties. Matures early enough for Montana, also unlike most currants. Huge indeterminate plant; medium productivity. Pick grape like strands of ripening fruit for a snack or as an attractive garnish for salads. Indeterminate.

**#585 ORGANIC PKT \$3.50** 



**CHERRY BABY tomatoes** 

#### **LEMON DROP: 70 days**

The most flavorful yellow currant tomato we've found! While many people believe that all currant tomatoes are sour with little or no sweetness, LEMON DROP has a very nice sweet tart complement in a bright yellow, 3/8 inch diameter fruit. Out of a trial of over 50 current tomatoes, LEMON DROP was selected as the best yellow type for its great flavor and yield. This wild tomato from South America is actually a different species (Lycopersicon pimpinellifolium) than the tomato in American commerce. This seed was supplied by Tim Peters of Peters Seed Research of Oregon. Indeterminate.

**#593 ORGANIC PKT \$3.50** 

# Tomatillos Physalis exocarpa

Used to make many Mexican recipes, such as chile verde, Tomatillos are an excellent crop for northern gardeners because of the quick fruit set. Start indoors in early March and set out at the same time as tomatoes. Don't worry how leggy they are, as tomatillos are notorious trailers and can be staked or draped over straw to keep fruit off the ground. Harvest when the fruit fills out the papery husk. Leave in the husk and store wrapped in paper in a cool dry place or in the refrigerator. Remove husk when ready to cook fruits.

#### **VERDE PUEBLA: 60 days**

Early maturing variety. Light green, slightly flattened, globe shaped fruit. Ripe when turning slightly yellow.

#599 PKT 250 mgs \$1.80



#### YORII SPRING: 38 days

Quick maturing all white turnip; sweet and crisp when 1½ inch in diameter. One of the first vegetables to harvest in the spring.

#471 PKT \$1.40; ¼ oz \$4.50; 1 oz \$8.10

# PURPLE TOP WHITE GLOBE: 50 days

A fast growing, crisp turnip; purple above ground, white below. Grows quite large and remains tender (to a point!).

**#470** PKT \$1.70; ¼ oz \$4.00; 1 oz \$5.30; ¼ lb \$17.00; 1 lb \$24.00

#472 ORGANIC PKT \$2.20; 1 oz \$7.00

# Turníps

Brassica rapa

Turnips' fast growing roots are sweet when picked early. The greens are a delicacy in early spring. 10 feet per person.

PKT 2.5 gm 400 seeds, sows 60 feet; 8750-14,200 seeds/oz.

CULTURE: Sow 1/2 inch deep, 2 seeds per inch in rows 12 inches apart. Thin to 6-8 inches apart. Deep bed spacing 6 inches.

GERMINATION: 3-14 days. SEASON: Cool Season. Sow 4 to 6 weeks before last frost and every two weeks through mid summer. SEED SAVING: Cross-pollinated biennial. Will cross with other turnip varieties, Chinese cabbage and oriental mustard. Root cellar sound roots for planting the following spring or leave roots in ground and mulch to over winter. Plants will flower the next summer. Cut stalks as pods turn brown. Thresh when dry; winnow and screen.

# Watermelon

Citrullus Ianatus

Montana and melon growing aren't exactly close friends largely due to our short growing season and cool nights in the mountains. To raise soil temperatures, either place fresh rotted manure with straw 8 inches under seed or transplants and/or use a plastic mulch or row cover. Cover plants during chilly weather for first month of growth. Make sure to remove covers during the day to insure that insects can pollinate the flowers. For row covers see page 67.

PKT 1.5 gms 30 seeds, sows 10 feet; 7 gms 170 seeds. 625-875 seeds/oz.

CULTURE: Sow indoors 3 seeds per pot about ½ inch deep. Transplant 2 feet apart in rows 5 feet apart. Direct seed 3 seeds per foot ½-l inch deep. Thin plants to 2 feet apart. Maintain adequate fertility, especially nitrogen, and keep temperature 70° F or higher. SEASON: Warm season. Plant or transplant after last frost. MIN. SOIL TEMP: 65° F.

GERMINATION: 5-10 days. SOIL: Slightly acid to neutral pH above 6.0. COMPANION PLANT: Beans, corn, peas, radishes, sunflowers. NOT aromatic herbs, potatoes. PESTS: STRIPED CUCUMBER BEETLE spreads FUSARIUM WILT: Control through heavy mulching and beneficial nematodes. MOSAIC: Thin affected plants, keep area free of perennial weeds.

SEED SAVING: Cross-pollinated annual. Will cross with other varieties. Watermelon will not cross with muskmelon. Grow at least 16 plants to preserve genetic diversity. Scoop out seed from fully ripe melons. Wash thoroughly and dry.

# Market Farm Tips

The 2 main standards for high-yielding melons are:

Soil warmth. Optimal temperature of 70° F can be reached by planting in light soil, raised beds, a protected plot with southern exposure, or through the use of plastic mulches or row covers.
 High fertility. Early vigorous plant growth is crucial for fruit development. Foliar feeding with kelp sprays is also highly recommended.

#### **CREAM OF SASKATCHEWAN: 78 days**

Grows vigorously during early summer, producing gorgeous green-striped, round melons with sweet, cream-white to pale

yellow flesh by August. This heirloom has rich, fragrant, old-fashioned watermelon flavor that is lacking in many of the modern yellow-fleshed icebox types. Delightfully sweet right down to the rind! Home gardeners can have this heirloom all to themselves thanks to an unusual genetic trait, the explosive gene, that



causes these melons to crack with a loud report when they are dropped even lightly.

#345 PKT \$1.80; 1/4 oz \$3.35; 1 oz \$7.65; 1/4 lb \$21.00

#### MICKYLEE: 80 days

Round to oval, 7-15 lb icebox type melons with grey-green rind and bright red, very sweet flesh. Holds in the field longer than SUGARBABY with firmer flesh and less seeds. FW, ANTH. #347 PKT \$1.50; ¼ oz \$5.15; 1 oz \$13.40



MICKYLEE

#### **MOON AND STARS: 82 days**

Considerably earlier strain of this famous heirloom. Round, dark green fruit with large yellow "moon" and scattered yellow "stars." 8-12 inch diameter and 10-15 lbs with light red, sweet flesh. Matures quickly. Holds only for a short time. #349 ORGANIC PKT \$2.00; ¼ oz \$7.80; 1 oz \$17.20

## CARE FREE PLANT FLATS

#### **GROW-DOMES**

Clear vinyl greenhouse covers maintain high humidity and retain soil heat for starting seeds and cuttings. Fits over the PLANT FLATS.
#1422 \$3.10 (¼ lb) Buy 5 or more for \$2.90 each

#### **GROW CELLS**

Twelve 4-packs of 1½" x 2¼" cells that fit in the PLANT FLATS.
#1424 \$.85 (¼ lb)

Buy 5 or more for \$.65 each

Twelve 6-packs of 1½" x 1½" cells that fit in the PLANT FLATS.
#1425 \$.85 (¼ lb)

Buy 5 or more for \$.65 each

#### **PLANT FLATS**

Attractive sturdy trays to start seeds and cuttings. Reusable and watertight. Measures 11" x 22" #1423 without drainage holes \$1.50 (1/2 lb)

#1429 with drainage holes \$1.50 (1/2 lb)

Buy 5 or more for \$1.25 each

#### SEEDLING FLAT NEW!

Twenty 10"x<sup>7</sup>/8"x1¼" deep rows across flat for easy seeding and easy separation of roots.

#1436 \$1.50 ea. (1/2 lb)

Buy 5 or more for \$1.25 each



#### **GROW SET**

Includes one GROW-DOME, one GROW CELL with 48 1½" x 2¼" cells and one 11" X 22" PLANT FLAT.

#1428 \$5.50 (1 lb)

#### HEAT CABLE

NEW

Controlled bottom heat promotes rapid growth and produces vigorous plants with well developed root systems. Great for

starting seeds and cuttings that need constant bottom heat. Uses 14 watts per sq. ft. Built-in thermostat set for 70°F. Cable operates on regular house current 110 volts.

#1440 12 ft \$20.00 (1/4 lb) #1441 24 ft \$24.50 (1/2 lb)





#### POT MAKER

NEW!

With this simple device you can make an endless supply of 1½ inch paper seed starting pots that can be transplanted right into the ground. Solid maple.

#1345 \$18.00 (1 lb)

#### STACKING WINDOWSILL GREENHOUSE

Stack up to three units high for optimum light exposure.

Maintains an ideal balance of humidity and air flow with its unique slide-controlled vent. Includes greenhouse dome and sturdy base tray. 20¼"x4"x5"

#1430 \$4.50 ea. (1/2 lb)

# Garden Supplies

The products here and on page 67 will help you get a jump on the season, whether you are starting plants indoors or extending your growing season outdoors. This selection of seed starting supplies allows you to design your own system or choose our convenient APS kit for propagation success! For professional seed starting instructions, check out the gardening book selection starting on page 78.

### PLANTING MEDIA

#### BLACK GOLD ALL ORGANIC POTTING SOIL

This deluxe commercial organic potting soil is weed free. Contains peat, perlite, earthworm castings, bat guano, blood meal, kelp meal, bone meal, sulfur, magnesium and oyster shell meal.

#1350 1 cubic foot bag \$8.25 (29 lbs)

#1351 16 qt \$5.25 (16 lbs)

#### **COCO PEAT**

Coconut husk coir fiber is an excellent potting medium for starting seeds and plants. A great use of a coconut harvest waste product, compressed 5:1 – simply soak in water and mix with potting soil. Neutral to slightly acidic pH. Unlike peat, coco peat is a renewable resource and does not shed water. Reusable.

#1364 Makes <sup>1</sup>/<sub>3</sub> cubic foot \$2.75 each (1 lb) #1365 Makes 5 cubic feet \$15.00 each (25 lbs)

### POTS

#### SQUARE POTS

High quality injection molded containers. They fit into the Care Free PLANT FLATS at left for easy carrying and spacesaving.

MAXI POTS 33/8" x 31/2" 18 fit in a PLANT FLAT

#1426 \$.20 each, minimum order of 5.

Buy 10 or more for \$.15 each (5 pots = 1/4 lb).

JUMBO POTS 51/4" x 51/8" 8 fit in a PLANT FLAT

#1427 \$.40 each, minimum order of 5.

Buy 10 or more for \$.30 each (5 pots = 3/4 lb).

#### **AZALEA POTS**

NEW!

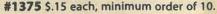
6" round green plastic containers

#1435 \$.45 ea, minimum order of 5

Buy 10 or more for \$.40 each (5 pots = 34 lb)

#### **JIFFY 7 PEAT PELLETS**

Nifty little pellets that puff up in water. Great for melon and squash family starts; eliminates transplanting shock. Peel off plastic cover when transplanting.



Buy 20 or more for \$.12 each (10 pellets = 1/4 lb)



# Garden Supplies

## TOOLS

#### WALLACE HAND TROWEL

A high quality trowel with one piece steel construction, non-slip grip. Lifetime warranty.



#1406 \$9.00 (1/2 lb)

#### SEED SOWER

The SEED SOWER has an adjustable outlet which controls the flow of different sizes of seed. See-through cover, palm size, very handy. Saves seed and thinning time.



#1405 \$3.80 each (1/4 lb)



#### LE WEEDER

A hand held hula-hoe with sharp blade for precise weeding and thinning around delicate plants.

#1408 \$8.00 (1/4 lb)



13 inch stainless steel, one piece design won't break. Sharp v-tip for effective deep digging.

#1409 \$13.00 (1/2 lb)



#### **EZ DIGGER**

A unique all-purpose garden tool. Made for centuries in Korea, the "Ho-Mi" is like a small plowshare; use it by pulling/stroking toward you. Fast, easy, accurate in all types of soil.



Seven inch curved blade is tapered and deeply set into handle. Excellent for sowing seed, weeding, and bulb planting. Light weight, only 9 ounces. #1403 \$13.50 (¾ lb)

FLORAL SNIPS NEW!

All metal 4" long, one piece floral snips. Made in the style of classic English trimming shears. One piece bow spring design means no moving parts to break or wear-out. Works for both right and left handers.



#1737 \$2.50

#### SOIL THERMOMETER

Allows you to plant at just the right time for maximum seed germination and plant vigor. Dial lists degrees and vegetables that can be planted within designated temperature ranges.

#1410 \$8.00 (1/4 lb)

# SEASON EXTENDERS

### SAYLOR WATER CAPS

Designed and developed by John W. Saylor, a commercial tomato grower in Sligo, PA, the Saylor Cap is designed to protect plants from early frost and provide a microclimate throughout the growing season conducive to maximizing productivity. Allows for the planting of frost-sensitive plants 4 to 5 weeks earlier, when soil temperatures are a minimum of 50°F. Protects plants from frost down to air temperatures of 10°F. Includes one 20" x 48" mil plastic bag, 4 plastic tubes and 1 metal frame.



#1367 2 for \$14.00 (21/2 lbs)

#1368 6 For \$40.00, dropship (comes with 1 extra bag) (7 lbs), #1369 Extra Bags for Saylor Cap, each \$1.05 (¼ lb)

#### WALL-O-WATER

Fill these sturdy plastic pockets with water and they diffuse the light and hold the day's heat. Takes care of your favorite plants through freezing nights and hot days. Leaves you time to eat tomatoes. #1373 3 for \$8.90 (1½ lbs)



#### WALL-O-WATER REPAIR KIT

Plastic tubes that fit in WALL-O-WATER segments that spring leaks. Don't toss it, fix it!

#1374 6 per case \$2.20 (1/4 lb)

#### **DEWITT SUNBELT WEED MAT**

We use SUNBELT to insure that warm season crops like melons and tomatoes mature and to control anticipated weed problems. Durable woven polypropylene fabric warms the soil and keeps the weeds out. Works well with drip and overhead irrigation. Fabric allows air and water through but slows evaporation. Make minimal cuts in fabric for planting seed or transplants. Decreases maintenance needed for annual or perennial plantings in gardening and landscaping. Lasts for many seasons.

#1376 6'x 6', \$4.50 (2 lbs)

#1377 6'x 20', \$14.00 (4 lbs)

#1378 6'x 50', \$35.00 (7 lbs)

#1379 6' by 300', \$170.00, postpaid

#1380 Ten 6" metal fabric anchoring pins \$2.45 (1/2 lb)

CASH DISCOUNTS!

5% discount on orders \$150.00 or more
10% on orders \$500.00 or more

## SEASON EXTENDERS

### REEMAY ROW COVERS

REEMAY, a breathable "floating" woven polyester material, lies over your beds to extend the growing season, acting as a mini-

greenhouse that allows air and water in. Resists frost and will not overheat or crush your seedlings. Also protects against root maggots, flea beetles, leaf miners, carrot rust flies, birds and other pests. Make sure that pests are not present before you cover them up. We also use REEMAY to protect tender crops at the end of the season. Will last three seasons if kept out of the weather during the summer and winter.



#1370 5½' by 20', \$7.50 (½ lb) #1371 5½' by 50', \$15.50 (1¼ lb)

#1372 5½' by 100', \$30.00 (2¼ lb)

#1380 Ten 6" METAL ANCHORING PINS \$2.45 (1/2 lb)



#### SOLAR UMBRELLAS

These clear vinyl umbrellas are instant, portable greenhouses that give easy access to plants and seedlings. 42 inch diameter dome, 22 inches high, with a sturdy handle that makes it easy to push the 121/2 inch anchor

shaft into the ground. Retains moisture and warmth, resists wind, frost and insects. Height allows heat to rise above plants.

#1391 \$15.90 (2 lb); Buy 2 for \$29.50; 3 for \$41.00

# Garden Supplies

#### LONG-REACH WATERING CAN

Long reach spout ideal for greenhouses and deep borders. With detachable fine brass rose.

1.75 US gallons. #1362 \$17.00 (34 lb)



#### **ULTIMATE GLOVES**

#### THE ULTIMATE SUMMER GLOVE

has a great fit. The breathable knit fabric conforms perfectly to the hand, while the tough, textured palm and finger tips stand

up to the most demanding work. Fully washable and very durable. Great for gardening in wet soils in warm weather.

Specify size S, M, L. #1431 \$7.50 (1/4 lb)



### THE ULTIMATE GARDENING GLOVE

has become a favorite in those areas where a gardener's hands need protection from wet soil, fertilizers, thorns, or abrasives. The glove is exceptionally comfortable to wear due to its patented seamless cloth liner. The fit and flexibility of the

tough vinyl skin permits enough dexterity to handle small seeds.

Specify size S, M, L.

#1432 \$7.50 (1/4 lb)



#### THE ULTIMATE G3

offers unparalleled comfort due to its patented seamless cloth liner. The knit jersey cuff makes the glove easy to slip on and

off. It is fully washable, and enables great dexterity when working the soil or planting seeds. Specify size S, M, L.

#1433 \$ 7.50 (1/4 lb)



Buy Any 2 Ultimate Gloves for \$14.00

#### **APS SEED STARTER SYSTEMS**

This Accelerated Propagation System (APS) is the foolproof way to start your own plants from seed or for rooting cuttings. Each APS system includes an Insulated Growing Tray with a clear Greenhouse Cover, a Pegboard Stand/Seedling Ejector, Water Reservoir with Liner, and Capillary Matting. The APS system automatically supplies just the right amount of water for a week or more, maintains even temperatures, and "pops" out the seedlings when you are ready to transplant. The Starter Kit comes with three APS models: the Windowsill APS-12 (twelve 2" x 2" cells), the APS-24 (twenty-four 2" x 2" cells), and the APS-40 (forty 11/2"x11/2" cells). You also get a 9 quart bag of Professional Germinating Mix, an 8 oz jar of Total Plant Health powdered seedling fertilizer, and 24 wooden markers. Just plant your seeds and in a few weeks you'll have some of the greenest, most vigorous seedlings you've ever seen!

#1393 APS STARTER KIT One each of the first 6 components listed below \$43.00 (6 lbs)

#1394 APS-12

\$11.50 (1/4 lb)

#1395 APS-24

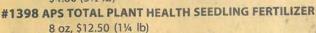
\$11.50 (1/4 lb)

#1396 APS-40

\$11.50 (1/4 lb)

**#1397 APS GERMINATION MIX** 

\$4.60 (31/2 lb)



**#1399 APS WOODEN PLANT MARKERS** \$2.20 (1/4 lb)

**#1392 APS REPLACEMENT CAPILLARY MATTING** PKG of 3 \$4.60 (1/4 lb)

# Garden Supplies

# COMPOSTING

Recycling waste products to replace what we take out of the soil is not only the key to a vigorous, happy garden, but helps us down the road to an ecologically healthy earth. Compost gives you the primary soil nutrients, improves soil tilth, and acts as an automatic pH balancer. You can even compost inside with worm boxes. We offer two books on composting (page 79), but here are the basics: Composting requires a particular ratio of carbon to nitrogen. Even amounts of fresh manure (high nitrogen) and straw (high carbon) provide about the right ratio. When water, air and billions of microorganisms are added, the microbes turn the raw materials into compost, slowly making its nutrients available to plants.

#### **COMPOST THERMOMETER**

Same quality design as our soil thermometer but with 24 inch stem to test the temperature well into your compost heap. #1180 \$17.00 (1/4 lb)

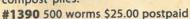
#### COMPOST BIO-ACTIVATOR

Turns grass clippings, leaves and waste into healthy soil-enriching humus. Contains billions of hard working beneficial organisms to energize your compost pile. Will treat one yard or up to one ton of organic material. #1381 1 lb can \$6.50 (1½ lbs)



#### **EARTHWORMS**, Lumbricus rubellus

Suitable for worm composting, some consider this species to be the "true" redworm. They greatly speed up the decomposition process in outdoor compost piles.



#### SEED SAVER

Born out of frustration with "shoe box" storage, the SEED SAVER is the answer for the gardener who is looking for a better way to organize and protect valuable seeds. It's easy

to carry and keeps seeds safe and dry. Also stores your plans, charts, catalogs, pencil, and garden gloves! The seeds are kept in resealable, airtight bags and are easily removed. Multicolored tabs on the top of the file bags provide easy indexing for organization of seeds. No more damaged or lost seeds! Box size 12"x9"x12"

#1413 \$36.00 each, postpaid



#### BEE BALM LOTION

Montana beeswax lotion is perfect for gardeners. Forms a barrier to keep dirt from drying out your hands. No perfumes, just natural honey scent. A little goes a long way.

#1411 4 oz tube \$4.80 (1/4 lb)

#### CITRA SOLV

NEW.

Super concentrated, biodegradable, all purpose cleaner made form the by-products of citrus peels. Good for cleaning rugs, drains, showers and ovens. Removes stickers, crayon, chewing gum and more.

#1736 \$2.90 (1/4 lb)

#### GRO-MARK PLANT LABELS

These plant labels are produced from New England White Birch, a durable hardwood which offers an excellent writing surface. These labels were the most readable and had the greatest longevity in our trials. 10 inches tall and <sup>7</sup>/<sub>8</sub> inch wide.

#1417 Package of 24, \$4.50 (1/4 lb)



#### PI 10 re w ru Pa

#### PLANT MARKERS

NEW.

10" metal plant markers with 2" x 7/8" tag for recording plant name, date of planting and where the plant came from. Markers are rustproof, weatherproof, and will not fade. Package of 10 markers with pencil.

#1419 \$6.00 (1/2 lb)

#### **ENVIROKIND SPRAY BOTTLE**

Handy trigger sprayer on a translucent 32 oz plastic bottle. Perfect for spot use of fertilizers or pest sprays. Recycled plastic.

#1361 \$2.40 (1/2 lb)

#### **ECO SPOUTS**

Put used plastic jugs and bottles to work! ECO SPOUTS turn most every plastic jug into a watering can and pour spout.

#1363 \$3.25 (1/4 lb)



#### TRELLIS PLUS NYLON NETTING

Made of 5-year white nylon. Great for peas, beans, and any climbing crop. In our trials TRELLIS PLUS proved to be durable and reusable.

#1353 5'x15' \$6.50 (¼ lb) #1354 5'x30' \$9.75 (½ lb)

#### JUTE TWINE

NEW!

100% natural Jute twine. Strong and durable. Great for tying plants to stakes and trellises, or lashing poles together for bean teepees. Medium weight, 400 foot rolls.

#1355 \$2.75 (1/2 lb)

### **FISH & KELP SPRAYS**

A mix of fish and kelp is the organic answer to synthetic foliar fertilizers. Fish supplies nitrogen for green growth while kelp provides numerous trace elements. Fish/kelp sprays speed up compost piles and revitalize lawns and can be mixed with most other organic fertilizers and pest sprays. SPREADER/STICKER (page 74) increases coverage. On this page you will find a pre-mixed kelp/fish blend, solution, and wettable powders (the most economical choice).

#### MERMAID FISH FERTILIZER:

Wettable Powder

Contains soluble 12N, 0.25P, 1K and micronutrients.

This wettable powder stores well, mixes easily, and is less

expensive than liquids. Made by the same process as NEPTUNE'S HARVEST. One 4 lb sack is the equivalent of 100 quarts of fish fertilizer! One tablespoon dry fish per gallon water, makes 320 gallons of spray.

#1161 4 lb sack \$15.00 (41/4 lbs)

#### ACADIAN KELP:

Wettable Powder

ACADIAN is made from 100% Ascophyllum nodosum (sea kelp) and contains a wealth of trace minerals and growth enhancing hormones. Reduces plant stress, improves transplanting success, and increases frost tolerance. The application rate is one tablespoon per gallon of water. It takes about 2.25 quarts of MAXICROP liquid concentrate to equal one lb of ACADIAN wettable powder. One tablespoon kelp powder per gallon of water;

makes 72 gallons of spray. #1166 1 lb bag \$12.50 (11/4 lbs)

### ECONOMY FOLIAR FERTILIZER PACKAGE

These fish and kelp products complement each other wonderfully and will go a long, long way.



4 Ib MERMAID FISH and
1 Ib ACADIAN KELP
WETTABLE POWDERS PACKAGE

#1165 both products for \$25.50 (51/2 lbs)

#### **NEPTUNE'S HARVEST:**

Liquid Fish Concentrate

Contains soluble 2N, 4P, 0.5K

Not an emulsion (made from cannery waste water), NEPTUNE'S HARVEST is made from 100% ground fish that undergoes cold biological degradation using naturally occurring enzymes.

The resulting fertilizer contains chelated nitrogen, phosphorus, macro and micro nutrients, and amino acids (and smells MUCH better than emulsions). Makes a great foliar spray and breaks down slowly when applied to the soil. For gardens: 2 tablespoons per gallon; makes 32 gallons of spray. #1162 1 qt bottle \$8.75 (2½ lbs)



# Fertilizers

## FOLIAR PLANT FEEDING

Liquid fertilizers are sprayed or sprinkled on the foliage of plants and are immediately absorbed, as compared to soil amendments that are slow release and slow to take effect. They are especially useful early in the season, giving your crops the boost they need when soil fertility or weather conditions are less than perfect. Also highly recommended for greenhouse plants, transplants, lawns, and house plants.

#### MAXICROP KELP:

Liquid Concentrate

This kelp product is made from 100% Ascophyllum nodosum (sea kelp) and contains a wealth of trace minerals and growth enhancing hormones. Reduces plant stress, improves transplanting success, and increases frost tolerance. For gardens: 2 tablespoons per gallon water; makes 32 gallons.



#1164 1 at bottle \$9.25 (21/2 lbs)

#### VITALIZE FISH & KELP FORMULA:

Liquid Concentrate

Contains soluble 3N, 2P, 2K

A versatile blend of fish and kelp extract. Stimulates vigorous root growth and beautiful foliage. Gives plants a welcome boost at any stage of development. For gardens: 3 tablespoons per gallon water; makes 16 gallons of spray.

#1163 24 oz bottle \$7.00 (2 lbs)

#### **ALGAMIN ROOT DIP**

Wettable Powder

At last, an organic alternative to synthetic rooting compounds! ALGAMIN is a Norwegian seaweed extract for dipping cuttings, bare root trees and shrubs. Also serves as an excellent seed soak, improving the germination and vigor of seeds and bulbs. Just mix 1 teaspoon into a gallon of water and dip your plants or soak your seeds. Then watch them grow! Makes approximately 66 gallons.



#1153 11 oz jar \$12.75 (1 lb)

## **PHOSPHORUS SPRAY**

LIQUID BONE MEAL

Quick Release Phosphorus Concentrate

Contains soluble ON, 12P, OK

At last, an organic foliar phosphorus spray! LIQUID BONEMEAL stimulates bud, flower, fruit, and seed development and promotes vigorous root growth. 1 quart covers 2500 square feet. Hose end applicator is part of the bottle.

#1168 1 qt bottle \$18.00 (21/4 lbs)

# Fertilizers

# SOIL FERTILITY

The basic nutrient needs of plants are Nitrogen, Phosphorus and Potassium (NPK). Just as important is the fertility of the soil. Healthy soil is teeming with life. Thousands of soil-dwelling microbes, algae, fungi, and insects need to be processing organic materials into humus; that is, turning materials like manure and leaves into rich soil. The tilth and texture of the soil will determine how well it retains moisture and how easily roots can get established.

A soil test will analyze your soil's needs. Aside from how much fish meal, bone meal, or kelp you may need, you'll want to be aware of the percentage of organic matter, the trace minerals, and pH of the soil (SOIL TESTS and LITMUS PAPER are on page 72). In order for the nutrients to be available to the plants they must be processed by the living soil critters and the pH must be right (ideally slightly acidic).

Seaweed (kelp in particular) can provide trace minerals and other benefits. SPLIT PEA SULPHUR or pine needles can be used to make the soil more acidic (lower pH) and lime can be used to make it alkaline (raise the pH).

A good compost made from a variety of materials will provide the main nutrients and many of the trace minerals, improve the soil tilth and act as a pH buffer. Organic fertilizers like greensand, bone and blood meal can be added directly to the compost pile as you make it. The nutrients can be "processed" by microorganisms and other decomposers and will be steadily released to your plants when you use your finished compost. Healthy plants repel bugs, thus compost is your most effective pest control.

You can also grow your own fertilizer by planting Green Manures and other Cover Crops (see pages 15-17).

# MICROBIAL GROWTH STIMULANT

#### **BIO-GROW**

An all-natural, organic fertilizer - excellent for use on lawns, gardens, flowers, shrubs, and trees. Works in the rhizosphere (root zone) by stimulating roots and improving soil biodiversity. BIO-GROW contains very high concentrations of natural soil bacteria of the *Bacillus* species, plus organic fertilizer

from plant and animal origins which contains 1.25% nitrogen. Increased potato yields by 13% in our trial. Apply to soil by pouring or spraying. Mix with water using a 1:20 ratio. 1 pint treats 5,000 square feet.

#1169 1 pt bottle \$9.00 (11/4 lbs)

Order on Line on our website: www.gardencityseeds.com

# COMPLETE FERTILIZER

### ALL PURPOSE ORGANIC MIX

4N. 6P. 2K

An excellent mix for flower, vegetable, fruit and seed production. Contains fish, blood, and Norwegian kelp meals, rock phosphate and steamed bone meal.

For gardens use 2-6 lbs per 100 sq ft.

#1101 6 lbs \$7.30 (61/2 lbs)

#### BIOGRO ORGANIC MIX

7N.7P.2K

A well balanced mix. Contains cold-processed fish, feather, alfalfa and blood meals, and sulfate of potash.

For gardens use 5 lbs per 100 sq ft.

#1107 25 lbs \$17.50 (26 lbs)

#### **VEGAN MIX**

NEW!

3N, 2P, 2K

An all purpose fertilizer made with no animal products or by products. Contains soybean meal, alfalfa meal, kelp meal, rock phosphate, sul-po-mag, stonemeal and greensand.

#1108 6 lbs \$6.75 (61/2 lb)

#1109 25 lbs \$19.00 (26 lbs)

#### ROSE AND FLOWER BULB FERTILIZER

4N, 8P, 4K

Specially mixed to provide enough nitrogen for vigorous growth, phosphorous for beautiful blooms, and potash & trace elements for healthy plant stock. Kelp and alfalfa have been added to the mix at the request of rose growers. Contains seabird guano, bonemeal, fish meal, alfalfa meal, feather meal, kelp & sul-po-mag. #1115 6 lbs\$7.50 (6½ lb)



# NITROGEN-FIXING INOCULANT

For legumes: Peas, beans, and green manure crops (see information in Cover Crop section, pages 15-17). These inoculants contain beneficial bacteria which form nodules on the roots of legumes. Nitrogen is taken from the atmosphere and fixed on the legume roots. When the plant is plowed in, that nitrogen is made available to other plants. Inoculant Improves overall plant vigor, increasing yields.

#1110 GARDEN COMBO PACKAGE \$3.50 (1/4 lb)
For peas, beans, favas (fabas), lentils. Treats 8 lbs of seed.

#1111 LARGE COMBO PACKAGE \$5.50 (1/4 lb)
Same as above. Treats 50-60 lbs of seed.

#1112 PEA INOCULANT \$3.30 (1/4 lb)
Also treats winter peas, favas, vetch and lentils.

Treats 15 lbs of seed.

#1113 PEA INOCULANT \$5.50 (1/4 lb)
Same as above. Treats 100 lbs of seed.

#1114 MEDIC, CLOVER, SWEET CLOVER INOCULANT Treats up to 50 lbs of seed. \$5.00 (¼ lb)

## NITROGEN (N)

Needed for green growth and healthy soil microbial activity.

SPECIFIC % OF N MAY VARY ACCORDING TO SUPPLY

#### BLOOD MEAL

15N, 0.01P, 0K

Quick acting, good for restarting a slow compost pile. Lasts 3-4 months. For leaf crops use 2-3 lbs per 100 sq ft. For root and fruit crops use 1/2 lb per 100 sq ft. Wait two weeks before planting if using more than 3 lbs per 100 sq ft. Doubles as a deer repellent!

#1103 5 lbs \$9.00 (51/2 lbs) #1104 20 lbs \$26.00 (21 lbs)

#### ALFALFA PELLETS

3.5N, 0.4P, 2.6K

Alfalfa is an affordable form of nitrogen that has a good carbon/nitrogen ratio and contains many minerals. It is easy on the soil, with little danger of burning plants. It is raised and processed in Montana's Bitterroot Valley. Intended as a feed supplement (with a relative feed value of 165!), pellets are convenient to apply and break down rapidly.



#1102 50 lbs \$9.50 (51 lbs)

#### FISH MEAL

5N. 8P. 0.5K

Made from ocean fish containing vital trace minerals and microbial stimulants. Lasts in the soil 6-8 months. In average soil, 2-5 lbs per 100 sq. ft.

#1105 4.5 lbs \$8.50 (5 lbs) #1106 20 lbs \$26.50 (21 lbs)



#### **BIO-TURF GRANULAR LAWN FERTILIZER**

9N. 3P. 2K

Bio-Turf is an entirely natural, pelletized dust-free material, formulated in conjunction with Oregon State University recommendations for organic turf nutrient ratios. It is a natural slow release material that will not burn and is designed to encourage deep rooting and decrease lawn watering requirements. With its high nitrogen ratios, it is also beneficial for heavy feeders such as corn. Fish meal base.

#1119 25lb \$22.50 (26 lbs)

#### SEA BIRD GUANO

12N, 8P, 2K



A complete fertilizer with high nitrogen content. A wealth of trace minerals and soil microbes. It can be used year round in any soil, for any plant. It helps bind soil particles, aids nitrogen fixation, and greatly enhances stimulation of beneficial bacteria. Also a great foliar spray when diluted with water & strained. Use sparingly.

#1129 5lb \$14.00 (5 lbs) #1130 10lb \$20.00 (101/2 lbs)

#### ALL OF THE ITEMS ON THIS PAGE MEET THE OMRI ORGANIC MATERIALS STANDARDS

# PHOSPHORUS (P)

For flower, fruit, and seed production, vigorous roots, and disease resistance.

SPECIFIC % OF P MAY VARY ACCORDING TO SUPPLY

#### STEAMED BONE MEAL

3N, 15P, 0K

The best source of phosphorus and a premium biological stimulant. Especially good on roses, bulbs, fruit trees and flower beds. We use it in our potting soil and when transplanting tomatoes and peppers. Also used to coat the surfaces of seed potatoes. Contains 30% lime in a compound called bone phosphate of lime. Use up to 2-5 lbs per 100 sq ft: lasts 6-12 months in the soil.

#1120 5 lbs \$5.50 (51/2 lbs) #1121 50 lbs \$37.75 (51 lb=)

#### **ROCK PHOSPHATE**

ON, 3P, 0K

Contains 27% total phosphorus (3% available), 24% calcium and trace minerals. Granulated, using a ligno-sulfonate as a binder to create a highly available, convenient-to-use phosphate. The lignosulfonate acts as a natural chelating agent that protects the active phosphate from recombining with calcium in the soil. Mined in Montana. Use 2-8 lbs per 100 sq ft; lasts 2-3 yearsin the soil.

#1124 5 lbs \$7.00 (51/2 lbs) #1123 50 lbs \$15.00 (51 lbs)



#### SOFT ROCK PHOSPHATE

ON, 2P, 0K

Provides ample amounts of available phosphorous and calcium as well as many trace minerals. In addition to the immediate benefits, it provides these nutrients through the growing season and helps balance acid soils. It is non-burning and is great for orchards, row crops, flowers, and vegetables. 16% calcium and at least 14 trace minerals. Apply 5 lb per 100 sq. ft on phosphate deficient soils, less on fertile soils, prior to planting.

#1125 50 lbs \$15.75 (51 lbs)

#### SEA BIRD GUANO

1N, 10P, 0K

High phosphorus guano. The best source of readily available organic phosphorus as well as some nitrogen and a wealth of trace minerals and soil microbes. It can be used year round in any soil, for any plant. It helps bind soil particles, aids nitrogen fixation, and greatly enhances stimulation of beneficial bacteria.



#1126 5 lb \$14.00 (5 lbs)

#1127 10 lb \$20.00 (10½ lbs)

#### ALL OF THE ITEMS ON THIS PAGE MEET THE OMRI ORGANIC MATERIALS STANDARDS

POTASSIUM/POTASH (K) building and the quality and size of fruit.

SPECIFIC % OF K MAY VARY ACCORDING TO SUPPLY

KELP MEAL Aseophyllum nodosum

Approx. ON, 0.3P, 2K

This high grade North Atlantic kelp meal contains 33% trace minerals. Having the proper amount of trace minerals in the soil may mean only half of the fertilizers will be needed for the same growth and yield! Improves soil structure and water holding capacity. Also acts as a natural fungicide. Use 10 and 5 lbs per 100 sq.ft in the 1st and 2nd years respectively, 2 lbs per 100 sq.ft. thereafter. Contains natural growth hormones. Lasts 6-12 months. FOR LIVESTOCK: Replaces the salt lick and provides over 70 minerals. Feed at the rate 2 lbs per 100 lbs of feed. Shows up as improved health with greater and more rapid weight gain.

#1131 5 lbs \$8.50 (5½ lbs) #1135 20 lbs \$26.75 (21 lbs)

GREENSAND Glauconite (K) and Iron

ON, OP, 7K

An iron potassium silicate; contains 20% iron oxide and as many as 30 other elements. This ancient sea shore deposit releases slowly. 8-10 lbs per 100 sq ft for root and fruit crops; 4-8 lbs per 100 sq ft for leaf crops and ornamentals.

#1133 15 lbs \$9.50 (16 lbs) #1134 50 lbs \$21.75 (51 lbs)

# CALCIUM, SULPHUR & MAGNESIUM

GYPSUM: Caso,

This soft mineral serves as a soil amendment, conditioner and fertilizer. Contains about 23% available calcium and 18% sulphur. Will adjust the pH up or down as needed and helps restore abused and overfertilized soil. Basically, GYPSUM improves soil structure to improve nutrient availability, water infiltration and retention, and general soil tilth. As a sulphur fertilizer use 1 lb per 100 sq ft. To correct excess sodium or magnesium levels, or loosen clay soils, use up to 3 lbs per 100 sq ft. Not suited for soils already high in calcium, which can be determined with a soil test that includes the cation exchange capacity (CEC).

#1142 25 lbs \$9.80 (26 lbs)

K-MAG: 50,K,OMg NEW!

From langbeinite ore bodies, K-Mag provides three essential plant nutrients: sulfur, potassium, and magnesium, in a balanced ratio of 22% sulfur, 22% potash, 11.1% magnesium, which works well for common soil deficiencies in the west. The three plant nutrients are provided in a highly soluable sulfate form, but, because the ore is ground into various screen sizes, the smaller granules become available immediately, while the larger ones release more slowly. A soil analysis will help determine if you are deficient in these three minerals and, along with your soil type, should determine your application rate. General rate is 2 lbs per 100 square feet.

#1148 5 lbs \$6.50 (5½ lbs) #1149 25 lbs \$13.20 (26lbs)

# Fertilizers

# SOIL TESTING

Take the guesswork out of fertilizing. Order soil tests with your regular order. Don't send samples now. We'll send you the collection bag with instructions. Information suggesting organic soil amendments will accompany your soil test results.

#### SOIL TEST

Quantitative tests for Nitrogen, Phosphorus, Potassium, sulphur, texture, lime, salt hazard, sodium, zinc, % organic matter, and pH. B & C Labs in Billings, MT will make a fertilizer suggestion per 1000 sq ft.

#1140 \$26.25

## **OTHER SOIL SUPPLEMENTS**

#### WONDER WORM

98% pure untreated organic castings, rich in beneficial bacteria. Nonburning and greatly improves the soil structure. Excellent for houseplants in maintaining fertilization without repotting. #1118 3 kg \$8.00 (7lbs)



#### **ROCK DUST SPIRAL STONE MEAL**

A soil amendment with 16% calcium. Volcanic and glacial rock dust offers a broad spectrum of minerals including important trace elements.

#1116 50 lbs \$16.00 (51lbs)

For nutrient availability and microbial activity. See Soil Fertility, page 70, for more information.

#### SPLIT PEA SULPHUR

Sulphur is not only one of the most important minor plant nutrients, it will also lower soil pH and supply iron, cobalt, and molybdenum. Slow release, slow acting. Pelleted; looks like small split peas and spreads easily. Use 5-10 lbs per 1000 sq ft. For large acreages: contact us for application rates and ton prices. (To raise pH, Dolomite Lime is commonly available at most garden and feed stores.)

#1150 5 lbs \$4.80 (5½ lbs) #1151 50 lbs \$11.50 (51 lbs)

#### LITMUS PAPER

Accurately measures pH between 4.5 and 8.5 in 0.5 increments.

15 foot long roll will last for years and comes with color pH indicator chart. Make sure your nutrients are available to your plants. Also good for testing compost pH.

Instructions included. #1152 \$7.25