

ASPARAGUS

General

- Q. I have just purchased some asparagus plants. How should I plant them?
- A. Prepare a planting bed by digging out unsuitable soil and replacing it with an organic type mixture (mix 1/3 sand, 1/3 soil, 1/3 sphagnum moss, compost or potting soil). Plant the plants 18-24 inches apart in a trench with the crown (buds) 4 inches below the ground level, but with only a thin layer of earth over them. As the growing season progresses, the trench should be gradually filled in.
- Q. When should asparagus plantings be divided?
- A. Generally, asparagus should be divided during the winter after the tops have been removed. The tops will freeze in north Louisiana, but in many areas of south Louisiana they will have to be cut back in order to produce a crop next year. During this time the roots can easily be divided into individual plants for replanting.
- Q. After planting asparagus how long is it before I can harvest the first spears?
- A. If you plant seed you should wait three years before the first harvest. If you start from one-year-old crowns, which is the usual recommended manner, harvest can begin to a limited degree the next year. Harvesting early will drastically reduce yield as well as quality of home-grown asparagus.
- Q. How long do I harvest asparagus in the spring?
- A. Most home gardeners in Louisiana tend to harvest asparagus too long in the spring. Length of harvest will depend a great deal upon location within the State, but generally the harvest should extend 4-6 weeks from the first harvest in early spring. Complete harvest in early spring followed by selective harvest "allowing a few spears to develop into ferns" is generally recommended.

ASPARAGUS

General (cont.)

- Q. When I finish harvesting the asparagus spears, how should I care for them during rest of the year?
- A. Allow the spears to fully develop into ferns. If necessary, an occasional selective trimming or pruning can reduce the amount of top growth. An occasional light fertilizing and adequate moisture will develop sufficient top growth to insure good spear production. Dust or spray to control beetles and other insects.
- Q. Each year my asparagus produces fairly well, but many of the spears are bent and crooked in shape. What causes this?
- A. Asparagus spears grown extremely fast and are highly sensitive to mechanical injury from cultivation, insect feeding or windblown soil particles. These injured areas, whatever the cause may be, will grow more slowly so that the more rapid growth on the opposite side causes the spears to curve and bend towards the injured side.
- Q. Can table sale be used for weed control in my asparagus bed?
- A. Yes, in limited amounts. Asparagus is much more salt tolerant than most vegetable plants and consequently, this characteristic results in the ability to use salt around the growing plants for weed control. However, excessive amounts of salt used in any one season, or salt accumulation over the years, can harm asparagus plants and subsequently reduce spear production. Thus this is generally not recommended. Consider Dalapon, 24D, Paraquat or Simazine as directed on the labels.
- Q. What causes my asparagus spears to get smaller and smaller each year?
- A. This is a condition that occurs in the warmer areas of the state, primarily in south central and south Louisiana. Spear production is primarily the result of food accumulated in the root system during the previous year. If this amount of stored material is lessened due to high temperatures, especially in the fall, or poor growing conditions, spear production will be smaller the following spring. These conditions over a long period of time will gradually result in smaller and smaller spears each year.

BEAN

General

- Q. Occasionally green beans germinate, come up but only have two leaves or maybe none at all. What is wrong?
- A. This condition is termed “blind head”, “snake head” or “bald head” and is generally caused by planting cracked or damaged seed. Occasionally the beans literally “pull their heads off” when forced to germinate and come through heavy or crusted soil. Planting good, high quality seed and maintaining the soil in a relatively moist and friable condition will help eliminate this problem. Wait until the next day before watering freshly planted beans (esp. Limas).
- Q. What causes my plants to bloom but fail to set pods?
- A. Excessive fertility often causes beans to bloom profusely but fail to set any pods. High temperature in combination with low humidity can also cause beans to fail to set. By planting at the right time and avoiding excessive fertility at planting, most recommended varieties will produce a good crop of high quality beans. A light fertilizing after the first harvest will greatly increase subsequent yields and improve quality of later harvested beans. Consider inherent soil fertility, compost and manures when applying fertilizer. Side dress only after good pod set to avoid over feeding.
- Q. Why are some type of beans able to climb and others are not?
- A. Pole beans are characterized by what is called an “in determinant” or vining growth habit, whereas bush bean varieties are “determinant” in habit. In the vining type, flowers form in the axils of the leaves and stem; thus the stem may continue to grow longer, more or less indefinitely. In the determinant-type growth the main growing point terminates in a flower cluster, thus preventing further stem elongation. Beans that climb do so by virtue of their twining stems. The absence of tendrils or tendril leaves in beans helps in one way to distinguish beans from peas. Pole beans do not have the ability to climb till they are well along in their growth.
- Q. What causes garden beans to become tough, stringy and fibrous?
- A. This problem is more commonly caused by high temperatures which occur during the period when the pods are forming. Low fertility and inadequate moisture can also contribute to this condition. Beans should be planted at a time when they will mature before temperatures become excessively hot in order to produce pods of high quality and favor.

BEAN

General (cont.)

- Q. Can I save seeds from this year's bean crop for next season's garden?
- A. Since beans are self-pollinated, they will breed true from one year to the next if they are open pollinated varieties. However, there are certain diseases which can be seed borne and can cause problems if you save seed from this year's garden for planting next year.
- Q. Can mung beans be grown in Louisiana gardens?
- A. Yes. Seeds of the mung bean are the source of bean sprouts in many popular Chinese dishes. They should be planted after all danger of frost in rows 3 feet apart with plants left 3- to 4- inches apart in the row. The pods are ready to harvest when they are fully mature and dark brown in color. The pods will mature over a long time. The seeds should be removed and germinated under clean, moist, dark conditions in order to produce long, tender nutritious sprouts.
- Q. What is the yard-long bean which is advertised in many seed catalogs?
- A. The yard-long or asparagus bean is a close relative of southern peas. It produces pods which are up to 3 feet long. The plants are vining and therefore need support. The pods are tender when young and are frequently used as snap beans. For snap beans, they should be harvested when the pods are partially developed and before seed enlargement begins to show. For shelling, they should be harvested when the seeds are full size, but still immature, or they may be shelled when fully mature.
- Q. Can I grow soybeans in my home vegetable garden?
- A. Yes. Soybeans are highly nutritious and produce fairly well in many areas of Louisiana. There are certain varieties which are commonly called vegetable soybeans which are milder in flavor than those grown in fields. They are commonly eaten largely in the green shell stage. The pods should be thick when fully mature but still green and tender. They should be seeded in May or June in most areas of the state in rows 30 to 36 inches apart with plants 2 to 3 inches apart in the row.

BEAN

General (Cont.)

Q. What is a broad bean?

A. Broad beans are also called Fava, Horse Bean and Windsor beans, but are not true beans. They are closely related to vetch and will generally grow in cooler weather which is unsuited for green snap beans. Some of the varieties commonly grown include broad Windsor and Long Pod. They can be planted very early in the spring in all areas of Louisiana. In central and south Louisiana, they can be planted in the fall for spring harvest. Generally they will not produce in the heat of summer. The commonly grown varieties require from 65- to 85-days from seeding to harvest.

Diseases

Q. The foliage of my beans develops a yellow appearance on the top of the leaf and on the lower side a brown, dusty material is formed.

A. This is bean rust. It is caused by a fungus and is controlled with either a Maneb, Maneb plus Zineb, sulphur or Chloroethalonil spray. Rust is associated with the cool weather in the fall. Begin at the first sign of the rust.

Q. My bean foliage appears to be distorted with a mild mottled pattern, and the fruit is crooked and hard.

A. This is bean mosaic. It is a virus that is seed transmitted. Once it develops within a garden site it can be moved from one bean to another by aphids. Control for this would be to use a good quality bean seed, to follow an aphid control program in the garden, and to remove diseased plants at once.

Q. My beans came up to a good stand and then began to die.

A. This is seedling disease of beans, and it is caused by a fungus known as Rhizoctonia. Control for this disease is a combination of different practices. The first is to use a raised bed so that the soil does not stay wet around these plants and also so that it will warm up somewhat faster. For the control of this disease, use a preplant drench of PCNB. It can be applied at the furrow at the planting time to get maximum control. The disease will be most severe during early spring.

BEAN

Diseases (Cont.)

- Q. My beans appear to be very stunted. When I removed them from the soil, I found large irregular galls or swellings on the roots.
- A. This is root knot nematodes. Root knot is a species of nematode that causes galls or swellings on plant roots. It restricts the uptake of nutrients from the root system to the foliage, thus resulting in a yellow and stunted plant. Root knot lives in the soil and can survive on a number of weed and vegetable crops. It is best controlled in gardens with an application of Vapam. The Vapam should be applied when the soil temperature is between 55 and 85°F. A drench application has been found to be the best method. It will require one quart per hundred square feet of garden surface. Do not apply around living plants or in areas where shade trees or fruit trees would have their root system underneath the garden. Almost all vegetable crops, weeds, and trees can be affected by this disease. Wait 3 to 4 weeks before planting.
- Q. After the recent windstorm, my bean plants were blown over and broken off at the soil line.
- A. This is the result of the seedling disease that occurred earlier. Although the plants were not killed in the seedling stage, the stems were damaged. Control of the seedling disease complex will result in prevention of this problem. Try a PCNB drench next time.
- Q. My beans appear to be very healthy. However, in examining the root system, I find that they have small round galls which appear to be attached to the root system itself.
- A. These are nodules formed by nitrification bacteria. Most legumes have the ability to fix atmospheric nitrogen in their root system.
- Q. My bean leaves have large brown spots on them. The damage appears to be more severe near the soil. However, it is beginning to develop over the entire plant.
- A. Although there are a number of leaf spots attacking beans, probably one of the most severe in Louisiana is anthracnose. It is caused by a fungus that is air-borne. It can be controlled with Chlorothalonil, Maneb, Maneb plus Zinc or Zineb sprays. Begin applications at first sign of the disease. Repeat in 10- to 14-days for 2 to 3 applications.

BEAN

Diseases (Cont.)

- Q. The foliage on my beans has angular, dead spots. The spots may or may not have a yellow halo around them. Defoliation is occurring on the more severely infected leaves.
- A. This is bacterial blight of beans. There are three different bacteria that can cause bacterial blight on beans. All can be controlled with foliar sprays of a copper fungicide such as Kocide 101, fixed Coppers or Copper Bordeaux. The bacteria can also be seed transmitted.
- Q. As they reach maturity, my bean pods are covered with a brown rotten spot. Once the beans are picked and brought inside, these spots develop rapidly into a white fungus in the crisper.
- A. This is anthracnoses of beans. It is caused by a fungus and can be controlled with applications of Chlorothalonil, Maneb, Maneb plus Zinc or Zineb sprays which will need to be made on a regular schedule. Under severe conditions, this disease can affect the leaves, stems and pods of the plant, causing severe defoliation and in some cases death. When picking beans that are going to be placed in the crisper and used later, it is suggested that they be examined closely, and if any pods are found to be affected with this disease, they should be discarded.

Insects

- Q. I have noticed toward early summer the leaves of my green beans start to develop a light rusting and unthrifty appearance. What could be causing this problem?
- A. Chances are your beans are infested with spider mites. Spider mites are one of the most destructive pests of garden vegetables and this is especially true for green beans, cucumbers, tomatoes, and eggplants. These minute insects can literally destroy a planting of beans. Applications of approved insecticides should begin as soon as the mites are first noticed. Use of the insecticides Malathion or Diazinon begun early in the season will generally result in satisfactory control although the miticide Kelthane is generally preferred and will normally give excellent results.

BEET

General

- Q. What causes beet roots to stay small, fail to enlarge, and often become woody?
- A. In order for beet roots to enlarge and be of high quality, they must mature during relatively favorable conditions including ideal temperatures, moderate fertility levels and adequate moisture. High temperatures, low moisture and slow growth brought about by low fertility often cause beet roots to be of poor and inferior quality.
- Q. I have been canning beets and have some roots with poor color.
- A. The appeal of your final product will be greatly enhanced by a deep, red color. Of course, zones of darker color and lighter color are natural in beets, but a light color is undesirable. Cooler temperatures (50 to 60°F) produce better colored beets than warmer temperatures (70°F plus). In general, fall and winter grown beets are darker in color than those grown in the spring. Small roots also usually have better color than larger roots.
- Q. Are beet tops good to eat?
- A. A definite yes. Many people actually prefer the young tops of beets to the enlarged roots. Beet tops are fixed much like other types of greens, such as collards or turnips, and have a distinctive flavor enjoyed by many.
- Q. It seems like every time I plant beet seeds, more than one plant comes up from each seed. Is this normal or am I doing something wrong?
- A. Table beet “seeds” are really clusters of single-seeded fruits grown together into a seed ball or multiple fruit. Therefore, it is quite common for several seedlings to come up from each seed planted. Single-seeded fruit of table beets are available, but are not commonly used by home gardeners. After your beet plants start coming up, they should be thinned to about 3 to 4 inches between plants to allow for normal root development.

BEET

General (cont.)

- Q. I always seem to have trouble growing table beets. Could there be something wrong with my soil?
- A. Chances are you are right. Beets do very poorly on acid soils. Soils with a pH of 5.5 or less are usually very unsatisfactory for growing table beets. Beets are an excellent test crop for many areas of North and West Louisiana. If beets fail to do well, chances are your soil is acid and should be limed to adjust the pH upward. To determine whether or not garden soils are acid, use the soil testing service to be sure.

Diseases

- Q. My beet leaves are perforated by small holes. These holes at first are a purple color and then with age fall out to give the leaves a shothole effect.
- A. This shothole condition is caused by a fungus known as Cercospora. It is an air-borne fungus that becomes a problem under wet, moist conditions. It can be controlled with the Zineb or Maneb + Zinc sprays. However, in most cases the damage is not enough to cause any serious loss in root size or development.
- Q. My beets are stunted. In examining the root system, I find that they are covered by small galls.
- A. This is root knot nematodes. It can be controlled with nematicide treatments using Vapam. This should be done three weeks prior to planting. Use one quart per one hundred sq. ft. Follow label instructions carefully.

BROCCOLI

General

Q. Can broccoli be grown in both the spring and fall?

A. Generally, yes. Broccoli does best when temperatures remain between 40 and 70°F during the growing period which generally is from 80 to 115 days. In most areas of Louisiana broccoli does best when planted in late summer so that it matures during cool periods. Temperatures below 25°F can damage or kill broccoli. Planting should occur so that the broccoli can mature before these conditions occur. Fall crops can easily be grown from seed but early spring planting should be with developed transplants.

Q. What causes the broccoli heads to become discolored and slightly slimy?

A. Broccoli is subject to several types of fungal diseases, some of which affect the edible portion. Under certain environmental conditions, such as high temperatures during the initiation of the edible portion, discoloration occurs. This has been observed on some of the new hybrid varieties. A general purpose fungicide spray program in combination with correct planting times and good cultural care will usually eliminate head discoloration.

Q. What causes broccoli to flower almost immediately and thereby making the heads inedible?

A. Excessive temperatures at heading time usually result in premature flowering and consequently reduction in quality and quantity of home grown broccoli. Broccoli will flower quickly if it is forced to mature at temperatures much above 80°F.

Q. Are broccoli leaves good to eat?

A. Yes, as a matter of fact most people would have a hard time distinguishing between young broccoli leaves and collard greens. Harvest and prepare only young and tender leaves as older, tougher leaves often develop a somewhat bitter or off taste.

BROCCOLI

General (cont.)

- Q. I have harvested the first large heads of broccoli from my garden. The secondary sprouts are now producing heads, but they are not as large as the first head. Is this normal or should we fertilize?
- A. The center head produced by broccoli is always the largest. The secondary sprouts produce heads about the size of a silver dollar. Side dressing with fertilizer may increase yields and size of these sprout shoots. It takes more of these to make a meal, but they will be as tasty as the large center head.
- Q. My broccoli is magnificent this fall, but some plants are rotting after I remove the main head. The stem has a hole in it that retains water and causes rotting. What can I do?
- A. The hole in the stem obviously cannot be corrected now. It is caused by a boron deficiency corrected by the addition of ½ pound per one thousand sq. ft. of a boron product, such as Twenty Mule Team Borax. Since boron is a minor element, add only small amounts. Boron toxicity occurs if too much is added, so use only what is required for your gardening area.

Disease

- Q. My broccoli foliage is developing yellow spots on the upper side with a downy growth underneath.
- A. This is downy mildew. It is caused by an air-borne fungus. There are some varieties that are resistant to this. The variety Bravo, however, appears to be very susceptible. Foliar sprays of Maneb plus Zinc, Zineb, and Chlorothalonil can be used to control this problem. It will take applications beginning at the first sign of the disease and repeated in 10- to 14-days depending on weather conditions.

BROCCOLI

Insects

- Q. Occasionally, some of my young broccoli plants become stunted and weak-looking and upon inspection are covered by small, green bugs. What could be used to control these insects?
- A. Aphids or plant lice are sometimes a real problem on broccoli and other members of the cabbage family. They are relatively easy to control utilizing insecticides, such as Malathion or Diazinon, if applications are begun early, before they become too numerous. Aphids reproduce rapidly.
- Q. Could you please tell me how to control worms that get in my broccoli heads?
- A. Chances are these are Loopers, Imported Cabbage Worms, or perhaps Broccoli Head Worms. Regardless of the type worm, satisfactory control can be obtained using a product containing Bacillus thuringiensis. This is a biological type insecticide which gives excellent control of most types of worms. For this material to be effective, it must be eaten by the worm. Please note that it takes two to three days to be effective, which means that killing the worm is not immediate. This is a completely safe chemical and can be used for control of most types of worms on most commonly grown garden vegetables.

BRUSSELS SPROUTS

General

- Q. When do I plant Brussels Sprouts for maximum production?
- A. Brussels sprouts are very sensitive to temperature. In general, Brussels Sprouts will produce best when daytime temperatures average about 65°F or less. Consequently, in most cases of Louisiana, they do best when planted in mid or late summer for late fall or early winter harvesting.
- Q. Should you pinch or cut the top out of Brussels Sprouts plants in order to make them produce more?
- A. This is up to you. Pinching or removing the growing point of the plant will hasten the development of the sprouts resulting in earlier harvest. This reduces the yield by about 1/3. If you expect temperatures in your part of Louisiana to drop much below 20°F, which might kill the Brussels Sprout plant, pinching out the top in early fall will probably increase harvestable yield.
- Q. How come my Brussels Sprouts fail to make firm, good-sized sprouts?
- A. More than likely it is because they were planted at the wrong time of the year. Brussels Sprouts do best when they mature under relatively cool conditions. Firm, good quality sprouts will result if planting generally occurs about 120 days before the first expected hard, killing frost in the fall.

CABBAGE

General

- Q. What causes cabbage heads to be loose and puffy rather than firm and hard?
- A. Some varieties of cabbage produce less tight or dense head than others, although this condition is generally associated with improper growing conditions. Cabbage does best when it is planted so it will head when daytime temperatures are under 80°F. High fertility, improper water conditions and improper temperature can result in loose, puffy heads.
- Q. How can I prevent my cabbage heads from splitting at the time they are ready for harvest?
- A. Splitting of the cabbage head be lessened or prevented by keeping the soil uniformly moist near harvest time. Splitting can also be lessened by root pruning the plant about the time the heads are mature. This can be done by cultivating near the plant or simply twisting the plant to break some of the roots. Splitting is seldom a problem with varieties maturing during cool weather unless it's variable.
- Q. What causes by cabbage to send up a flower stalk
- A. Bolting or flowering of cabbage is directly related to temperature conditions. If the plants go dormant due to cold weather for extended periods of time, when growth resumes they will often go to seed or "bolt." This condition can also occur if temperature conditions become too hot. Spring planted cabbage is often seen flowering in gardens over Louisiana during mid-summer.
- Q. I often have trouble in getting my cabbage to form a head. What is wrong?
- A. Cabbage and all members of the cabbage family, such as cauliflower and broccoli, require cool temperatures, adequate moisture and high fertility in order to produce high yields of quality produce. Any condition which results in a stunting or stress on the plants during the growing period, including insect or disease, can result in complete or partial crop failure.

CABBAGE

General (cont.)

- Q. What is Chinese cabbage and how is it different than regular cabbage?
- A. Chinese cabbage is Brassica rapa and is more biologically related to the turnip. Like cabbage, it is a cool season crop and tends to bolt or go to seed in long days of late spring and summer. Consequently, it grows best as a fall or early winter crop in most areas of Louisiana. Cultural practices are generally the same as for regular cabbage, although Chinese cabbage generally matures quicker and may be ready in as little as 60- to 65-days from seeding. Chinese cabbage is generally used fresh in salads, stir fried or cooked as regular cabbage.
- Q. What is savoy cabbage?
- A. Savoy cabbage is nothing more than a crinkled or crumpled leaf variety. It is cultivated and harvested identically as common types of cabbage. The Savoy King hybrid is an all American winner.
- Q. I have heard that cabbage plants will produce small, secondary heads resembling Brussels Sprouts. Is there any secret to this?
- A. It is true that one to several small lateral heads may be harvested from early cabbage if the plants are left in the garden after the main head is removed. This is done by cutting carefully just beneath the solid head leaving the loose older leaves uninjured, if possible. Sprinkle a small amount of fertilizer around each plant and water in. These small “brussels sprout” like heads develop from buds located in the axils of older leaves. They should be harvested when of good size and firm. Flavor, color and texture are excellent. Remember that cabbage does best under cool conditions, and the same requirements are necessary for the small, secondary heads to develop.
- Q. What is ornamental cabbage or kale and are they edible?
- A. There are certain varieties of cabbage and kale that produce decorative, non-heading plants with green or purple leaves and colorful white, cream, pink, red or purple interleaves. These are sold as “flowering cabbage” and can be attractively used as edging or for low, colorful accent plants in flower beds. Ornamental cabbage, like other members of the kale crop family, does best when it matures under cool conditions. The

leaves are edible, but tough and strong in flavor. The plants are subject to the same insect and diseases as common cabbage.

CABBAGE

General (cont.)

- Q. What causes the dark or black areas on the internal leaves in cabbage heads?
- A. Chances are what you are describing is Internal Tip Burn. Although the exact cause is unknown, tip burn has been related to low soil moisture, high fertility and boron deficiency. To avoid this problem, maintain adequate fertility especially during formation of the cabbage head and avoid excessive fertilization near maturity. Applications of a small amount of Twenty Mule Team Borax to the soil can overcome boron deficiencies, but please remember that excessive amounts can be toxic to plants. This treatment should be avoided until a boron deficiency is certain.

Disease

- Q. As my cabbage approaches maturity, the head develops black, circular spots. These may be the size of a penny up to the size of a half dollar.
- A. This is Alternaria leaf spot and can be controlled with Zineb, Maneb + Zinc or Chlorothalonil sprays.
- Q. I recently harvested a head of cabbage that had black streaks throughout the stem and core area of a the cabbage. This extended out into the head, causing a foul smelling decay.
- A. This is black rot of cabbage and is caused by a seed borne bacteria. There is no control for this other than the use of resistant varieties. Cabbage which is temporarily flooded is more subject to this type of infection.
- Q. The outer foliage of my cabbage plants develops a yellow lesion with downy growth underneath and is very brittle.
- A. This is downy mildew and is controlled with Maneb, Maneb plus Zinc, or Chlorothalonil sprays beginning at the first sign of the disease. Repeat at 10- to 14-day intervals for 2 to 3 applications.

CABBAGE

Insects

- Q. What are the shield shape, bright colored insects which seem to enjoy my cabbage more than I do?
- A. No doubt you are describing Harlequin Bugs. These are close relatives of stink bugs and can be a real problem on cabbage and related plants if left unchecked. At the first sign of problems with this insect, applications of most general purpose insecticides will result in satisfactory control. Always remove harvested or over mature cabbage, broccoli or cauliflower plants as these serve as excellent breeding and nesting places for Harlequin Bugs and serve as a good source of problems for your next season's garden.
- Q. What are these inch worms that are literally destroying my cabbage?
- A. Although cabbage and related vegetable crops are bothered by many different types of worms, chances are you are bothered by cabbage loopers. Loopers, although a severe pest of cabbage, are relatively easy to control utilizing the biological insecticide Bacillus thuringiensis. This material gives excellent control of worms and can be used with complete safety around the home. It is sold under many trade names such as Biotrol, Thuricide, Dipel and Biological Worm Killer. Otherwise, try Sevin.
- Q. Occasionally my cabbage plants seem to be growing slow and upon examining the roots, there appears to be white webs and small crawling insects on the roots. Is this the cause of my problem and what can be done?
- A. You are describing soil or root aphids. They can become a problem on members of the cabbage family and result in stunting, poor growth, low quality and poor yields of infested plants. The occurrence of this problem is relatively unpredictable and consequently, control recommendations are generally not recommended. Applications of recommended soil insecticides, such as Diazinon will generally give satisfactory control of soil aphids. Applications of Diazinon should be made when the ground is being prepared and before seeding or transplanting.

CANTALOUPE (MUSKMELON)

General

- Q. What do my cantaloupes bloom and bloom but seldom set any fruit?
- A. Cantaloupes, like other vining crops, such as cucumbers, pumpkins, squash and watermelon, require pollination in order for fruit set to occur. This means that pollen must be transferred normally by bees and insects from the male blooms to the female blooms in order for fruit set to occur. Although cantaloupes are somewhat different than other vining crops in that they have flowers that contain both male and female parts as well as those which contain only male parts, pollination is still necessary for fruit set to occur. Also, high temperatures or under some circumstances high fertility can cause the cantaloupe to produce only male blooms which obviously results in poor fruit set.
- A. A qualified yes. Although cantaloupes do produce some perfect flowers (those that contain both male and female parts) which have the ability to set fruit without being pollinated by pollen from a male flower, an adequate supply of bees during bloom will insure a more abundant harvest of cantaloupe. It is safe to say that most of the problems with fruit set in cantaloupes is simply a lack of pollinating insects during the blooming period. You can hand pollinate.
- Q. Can cantaloupes cross with other crops such as cucumbers, watermelons, squash or pumpkins?
- A. Although crossing can occur between some members of the cucurbit family, this is relatively rare and infrequent in most groups. If crossing does occur it will not show up in this year's fruit resulting in off-flavor, odd colors, etc., but will be evident if seed is saved from these fruits to plant in next year's garden. Many people relate off-flavored fruit or strange colored fruit as being the result of cross-pollination, but this is primarily due to environmental conditions or some type of disease. (See pollination charts.)

CANTALOUPE

General (cont.)

- Q. What is the best way to determine when a cantaloupe is ready for harvest?
- A. The cantaloupe itself will tell you when it is ready to harvest. The cantaloupe is ready to harvest when the fruit reaches the “slip” state. Slip means that the stem will easily separate from the fruit. When a cantaloupe is thoroughly ripe, the stem will automatically slip. To avoid over-ripening, home gardeners should harvest cantaloupes before they naturally separate from the vine. The best way to check maturity of cantaloupes is to place your thumb beside the stem and apply pressure gently to the side. If the stem separates easily, rest assured the cantaloupe is ripe.
- Q. Some years my cantaloupes are sweet and tasty and other years they have no flavor at all. What is wrong?
- A. Cantaloupe flavor is highly dependent upon environmental conditions. Many people feel that the lack of flavor is due to the fact that the cantaloupes have crossed with other types of vine crops, such as cucumbers. This is absolutely false. High rainfall or excessive irrigation as the cantaloupes near maturity will adversely affect fruit flavor. Also, diseases which reduce the vigor of the plant and consequently the leaves’ ability to produce sugar will also affect fruit flavor. Maintaining the plants in a healthy growing condition and avoiding excessive watering near maturity will improve cantaloupe flavor.
- Q. Can you save seed from this year’s crop of cantaloupes for planting in next year’s garden?
- A. Yes, but this is not a recommended practice. In general, you should not save seed from any of the vine crops as some cross-pollinating can occur which will be evident when the seed are planted in next year’s garden. It is fairly safe to say that if you grow only one variety of cantaloupes and there are no cantaloupes in neighborhood gardens, seed can be saved for next year without fear of producing off-type fruit. If hybrid seed is used, then seed should definitely not be saved for next year’s planting.
- Q. What is the difference between a honeydew and cantaloupe?
- A. Honeydew melons are closely related to cantaloupes but generally ripen later. Most of the honeydew melons have white or green flesh and mature within 100 to 120 days from planting. Most honeydew varieties do not “slip” from the vine as do cantaloupes

and are mature when they become creamy to golden yellow in color and the blossom end becomes slightly soft.

CANTALOUPE

Disease

- Q. My cantaloupe foliage is developing yellow spots with a downy growth underneath.
- A. This is downy mildew and is controlled with resistant varieties like Top Score, and fungicide applications using Maneb, Maneb plus Zinc, Chlorothalonil and Zineb.
- Q. My cantaloupes foliage is covered by brown, necrotic spots which fall out giving the foliage a very tattered appearance.
- A. They are cercospora leaf spots and are controlled with fungicide applications at 10 to 14 day intervals. Use Maneb, Maneb plus Zinc, Zineb and Chlorothalonil.
- Q. My cantaloupe stems near the crown of the plant, are splitting. An amber-colored ooze is being formed around these cuts. Soon after this, the plants wilt and die.
- A. This is Gummy Stem Blight. It is a soil-borne fungal disease that infects the young plant causing death. It can be controlled by Benlate Chlorothalonil, Maneb plus Zn or Zineb sprays applied at the crown of the plant when they are just beginning to emerge and form runners. Rotation within the garden will also help prevent the occurrence of this problem.
- Q. After the recent rains, my cantaloupes began to rot. Around the base of the decay a white fungal mat was found.
- A. This is Southern Blight. The best means of controlling this is to place something between the fruit and the soil. Heavy soils will be more apt to have this problem than light, sandy soils. Chemical control has not proven satisfactory for the prevention of this problem. If you are watering, it should be light and of short duration so that the soil does not stay wet for long periods. Deep plow before planting.
- Q. My cantaloupe roots are covered with knots and small swellings.
- A. This is root knot nematodes. They are controlled with Vapam treatments.

CARROT

General

- Q. I have planted carrots several times with no luck. Why won't they come up?
- A. Be sure not to plant them too deep. Sow the seed on top of the bed and gently rake them in, covering the seed only about ¼ inch deep. Germination will increase as soil temperature decrease. Don't crust or harden the soil on top of the bed with direct sprays of water. Keep your planting area moist and try a temporary mulch or cover shade.
- Q. What causes the top of my carrots to be green in color rather than orange?
- A. Greening on the top of the carrot is brought about by exposure to sunlight. This generally occurs when conditions such as heavy rain causes the soil to be washed away from the carrot roots exposing them to the sun. There is often an off-flavor associated with this green color. Therefore, this portion should be removed before consuming or canning.
- Q. Why are my garden carrots short and stumpy rather than long and slender like those found in grocery store?
- A. More than likely the problem is variety selection. Most recommended home garden varieties are the Nantes or Chantenay varieties, which are genetically short and thick. Those sold at grocery stores are of the Imperator type and inherently long and slender. Carrot length can be affected by excessive moisture during the growth of the carrots and soil type. Gardeners should avoid over watering carrots as they near maturity.
- Q. What causes my home garden carrots to be tasteless, woody and often bitter rather than sweet and tender?
- A. Generally this is associated with growing conditions and environmental conditions during the maturing period. Carrots grow best and develop highest sugars when temperatures are between 40-80°F. Consequently, the best carrots are produced when planted in fall for early winter harvest. Carrots are cold hardy, but should be planted so that they mature before temperatures drop below 20°F as damage or death can occur. In areas of south Louisiana, plantings can begin in late September or October.

CARROT

General (cont.)

- Q. Each year my spring planted carrots send up a seed stalk. Am I planting the wrong variety or what am I doing wrong?
- A. Carrots are a biennial plant. They generally take two years to go from seed to producing flowers. Carrots or many other biennial type crops, such as cabbage, will produce seed stalks the first year if the young plants are subjected to cold weather early during their growth. Carrots which produce seed stalks often lack flavor and are woody and of poor texture.
- Q. What causes my carrots to be pale yellow in color rather than the typical orange color?
- A. Although there are varietal differences with regard to root color, changes are your problem is associated with environmental conditions. Carrots that mature under relatively warm temperatures or high moisture conditions have the tendency to lack good root color. These carrots also have poor flavor and texture. Carrots should be planted so that they mature under relatively cool conditions and prefer growing temperatures that average less than 80°F. Avoid excessive soil moisture if at all possible.

Insect

- Q. What causes my carrots to be forked or double?
- A. This condition is brought about by any occurrence which destroys or damages the growing tip of a young carrot. Common causes include soil insects and nematodes which feed on the growing tip resulting in branching of the carrot root. Fresh manures near the roots may also do this.

Disease

- Q. Once I harvest my carrots and place them in the crisper, they soon deteriorate into a slimy, foul-smelling mess.
- A. Most often this is associated with Bacterial Soft Rot. It enters the carrot at harvest time through cuts and breaks. To control this, carrots should be washed thoroughly. Any

broken or damaged carrots should be consumed immediately. After washing, they should be placed in a crisper and held at a cool temperature to prevent further development of the bacteria.

CARROT

Disease (cont.)

- Q. My carrots foliage is infected with brown lesions which cause the leaves to decay.
- A. This is a leaf blight of carrots and is caused by two different fungi. The control for this is to spray with Maneb plus Zinc, Zineb, or Chlorothalonil sprays. Begin at the first sign of the disease and repeat at 10 to 14 day intervals until weather conditions change. Leaf blight in carrots is favored by extended periods of high humidity caused by dews and intermittent rain. If not controlled, leaf blight can reduce the yield.
- Q. When I dug my carrots, I found galls or swelling on the roots.
- A. This is root knot nematodes. Nematodes are controlled with Vapam soil treatments, high organic matter, summer fallowing, and rotation.
- Q. My carrots foliage has a yellow appearance with multiple sprouting at the crown of the root. The roots have numerous small roots on the main root.
- A. This is Aster Yellows and is a virus disease of carrots which is carried by leafhoppers. There is no control for the disease other than a good insect program coupled with removal of the diseased plants once the disease symptoms begin to show up.
- Q. My carrots are rotting off at the soil line. On close examination, I find the top of the root covered by a white fungal mat.
- A. This is Southern Blight of carrots. It is a soil-borne disease and can be controlled by combining a good foliage fungicide program, deep burial of organic material so that you do not have undecomposed leaf tissue in the upper zone of the garden soil, and rotation.
- Q. My carrots die off rapidly during the warmer months of the year.
- A. This is cotton root rot and is a soil-borne fungus. It attacks the roots of carrots causing rapid death of the carrot itself. On close examination of the root system, you will find it to be completely decayed. There is no control for this other than the use of rotation.

Plant carrots so that they will mature in cool months of the year. Cotton root rot is a disease that requires a hot soil for it to develop and grow at its most rapid stage. Carrots planted in the fall and winter months to mature before the soil warms up will reduce losses from this fungus.

CAULIFLOWER

General

- Q. Can cauliflower be grown in the spring as well as in the fall?
- A. Cauliflower is not an easy garden crop to grown and requires a constant supply of moisture, relatively high levels of fertility and moderate temperature conditions. Cauliflower will not do well if grown where temperatures average above 75°F or where winter temperatures drop below 25°F. Problems usually associated with poor results from cauliflower are invariably related to improper planting time and/or low moisture and fertility conditions.
- Q. How long does it take cauliflower to go from seed to a harvestable head?
- A. This is dependent upon variety and seasonal temperatures. Some of the new hybrid varieties of cauliflower, such as Snowcrown, will yield a 6-9 inch head about 55-60 days from transplanting. Others may require as much as 100 days from transplanting. In general, most varieties if properly grown will produce harvestable heads 85-130 days from planting the seed. When heads are forming, heat hastens maturity.
- Q. I am growing cauliflower for the first time. I read somewhere that it must be blanched to reach its best quality. What is blanching? When and how is it done?
- A. Blanching of cauliflower refers to protecting the heads from sunlight. Unblanched heads will be yellowish, pale green in color while blanched heads are pure white. When the head begins to enlarge, the outer leaves should be pulled over the head and tied with a rubber band or soft twine.

Disease

- Q. My cauliflower heads turn dark as they reach maturity.
- A. This is caused by a disease known as downy mildew. Downy mildew can also affect the foliage causing loss of leaves. It can be controlled with Maneb plus Zinc, Zineb, and Chlorothalonil sprays applied on a regular basis.

CELERY

General

- Q. Can celery be grown successfully in Louisiana gardens?
- A. Yes, if given the proper growing conditions – but it's not easy! Celery does best in cool weather and especially well when nighttime temperatures are around 50°F and average daytime temperatures stay between 60-70°F. Since celery requires these conditions for as long as 5 to 6 months duration, most optimum planting time occurs in mid to late summer with harvesting occurring in early winter. Prolonged periods of cold temperatures during early growth or excessively high temperatures near maturity will start the formation of a seed stalk. In the northern parts of Louisiana celery transplants must be hardened and set out early to avoid damage which can occur from low temperatures. In the southern regions of Louisiana, seeding or transplant can occur in late fall for harvest during late-winter. This crop is thought to be a real challenge for our gardeners.
- Q. Will freezing weather kill or damage celery?
- A. Yes. Young celery plants can be damaged by near freezing temperatures. At or near maturity celery plants can withstand frost or freezing weather although temperatures much below 30°F can kill or damage celery.
- Q. What causes the stout and often bitter flavor?
- A. Improper environmental conditions, primarily high temperatures at maturity along with stress conditions such as drought or low fertility can cause celery to become off-flavored. For maximum quality celery must be grown full speed under suitable environmental conditions and a constant level of available moisture.
- Q. What is meant by blanching celery?
- A. Blanched celery refers to celery that is largely without any green color. Blanched celery is less popular now and the so-called self-blanching varieties are difficult to locate. For the most part, green celery is preferred by most gardeners due to the fact that it is

generally considered to be more nutritious. Green varieties can be blanched if light is excluded from the plant by placing strong paper or boards on each side of the plants or by wrapping individual plants loosely with paper 2 to 3 weeks before harvesting.

CELERY

General (cont.)

- Q. My celery plants foliage is marked by reddish-brown lesions.
- A. This is leaf blight caused by several fungi. However, *Cercospora* seems to be the primary one involved. It can be controlled with foliar sprays of Chlorothalonil. Begin applications at the first sign of the disease and continue at 10 to 14 day intervals until weather conditions no longer favor disease development.

CELERIAC CELERY

General

- Q. What is celeriac?
- A. Celeriac, also called Turnip Rooted Celery or Knob Celery, is grown for its globular root which has a celery-like flavor. It is usually about 5 inches in diameter at maturity. Celeriac is easier to grown than is true celery.
- Q. Can celeriac be successfully grown in Louisiana?
- A. If you can grow celery, you can surely grow celeriac in your garden. It requires approximately 200 days from seeding to maturity although the root is edible at any earlier stage.
- Q. How do you use celeriac?
- A. Leaves can be harvested from the celeriac at any time. Pull up the roots to use when desired, usually when they are about the size of a baseball. The root must be peeled and sliced into sticks before using. Celeriac is usually eaten cooked rather than raw.

CHIVE

General

Q. What are chives?

A. Chives are a hardy relative of the onion. They produce numerous thin, hollow leaves 6 to 10 inches long. In late spring or early summer they bloom with lavender colored blossoms. They are classed as perennials, but are not evergreen perennials. Stalks may die down to bulbs in summer.

Q. When planting chives do I use seeds or plants?

A. Either. If you plant clumps or plants you can start harvesting within 2 months. Starting from seed, it generally takes about 90 days before first harvest can occur.

Q. Do chives require any special care for maximum production?

A. Constant harvesting of the leaves is essential if you are to keep a healthy, vigorous plant growing. Every third year dig and divide the clumps and plant them in another part of the garden. They are very easily grown in gardens and do exceptionally well in pots or in other types of containers.

COLLARD

General

- Q. is it true that collard greens are highly nutritious?
- A. Collard greens are relatively nutritious being quite high in vitamins A and C, Calcium and Riboflavin. The taste is similar to, but richer than that of cabbage. A light frost near harvest time enhances the flavor of collard greens.
- Q. When harvesting collard greens, should you harvest the older, mature leaves or should you pull up the entire plant?
- A. Although harvesting can occur in both manners, maximum yields result if you harvest the leaves from the bottom of the plant before they become too old. The first harvest generally occurs about the time the plants are 60 days old.

Diseases

- Q. My collard foliage developed a yellow area and white, downy growth underneath. This foliage quickly turned yellow and became brittle to the touch.
- A. This is Downy Mildew. It is controlled with Maneb plus Zinc, or Zineb. Make repeated applications at 14-day intervals.
- Q. The stems of my collard plants become rotten once foliage is removed. The decayed area is very foul smelling.
- A. This is Bacterial Soft Rot which is entering in the broken areas where the leaves were removed. This can be controlled with a spray of Kocide 101 fixed copper or copper Bordeaux at the time of harvesting.

CORN

General

- Q. Should sweet corn be planted in several short rows rather than in one or two long rows?
- A. The answer to this is a definite yes that is if you want kernels on the cob. Corn is pollinated by wind-borne pollen. Planting corn in blocks rather than in long rows makes it easier for the plants to pollinate one another during tasseling.
- Q. Should the “suckers” or “side shoots” which emerge near the ground level on sweet corn be removed?
- A. This is not necessary although most experienced gardeners feel removal of the suckers will result in larger, high quality ears especially in close spacings. If they are to be removed, they should be snapped off at a relatively small size.
- Q. How long does it take for most sweet corn varieties to produce edible ears?
- A. Most sweet corn varieties on the market today will mature here between 65-90 days from seeding. Rate of maturity will vary greatly from year to year and from season to season depending upon temperature conditions. Heat makes it grow faster.
- Q. Can you tell me why ears of corn are underdeveloped at the tip end?
- A. This condition is quite common not only in gardens, but also in large commercial planting. Several explanations have been given for the cause of this condition such as a nutrient deficiency, loss of foliage due to disease with correspondingly lower food manufacturing capacity, cool temperatures during ear maturity periods and low moisture conditions. Corn is cross-pollinated by windblown pollen from the male flowers of tassels at the top of the plant to the female flowers or silks about midway up the stalks. Each kernel develops from an individual pollinated silk. Silks develop near the middle and base of the ear first with those at the tip developing last. When unfavorable conditions occur such as those mentioned above, those kernels pollinated first will take precedence over those pollinated last. This often results in failure of the kernels near the tip to properly develop.

CORN

General (Cont.)

- Q. How come some years a sweet corn is sweet and tasty and other years it seems to lack the desired flavor?
- A. The flavor of sweet corn is highly dependent on weather conditions. If rain occurs within a week of harvest time, the flavor of sweet corn is often greatly diminished. Also, if the corn matures during high daytime temperatures as well as high nighttime temperatures, the sugar levels of sweet corn will be relatively low and flavor will be disappointing. The sugar in sweet corn is rapidly converted to starch even under optimum storage conditions necessitating the need for cooking as soon as possible after harvest.
- Q. Is there an optimum or best time of day to harvest sweet corn?
- A. Most experienced sweet corn gardeners recommend harvesting corn at milk stage maturity during the early morning hours. This insures that the sugar level will be at its highest level providing the harvesting occurs when the corn is mature and not overripe. Chill as soon as possible.
- Q. How often should sweet corn be fertilized to produce high yields of good quality corn?
- A. Sweet corn should be lightly fertilized prior to planting. It should be fertilized again when the plants are almost one foot tall and again when they are almost 3 feet tall. Approximately $\frac{1}{4}$ pound of complete fertilizer for every 10 feet of garden row should be sufficient for fertilizing corn in most areas.
- Q. My sweet corn this year produced both yellow and white kernels on the same cob. What's wrong?
- A. This could be the result of a bicolored variety or perhaps cross-pollination. Some of the near varieties, primarily those which have an extra sweet character, produce both white and yellow kernels on the same cob. Some of the bicolored varieties are "Sugar Dot" and "Honey and Cream." However, if you planted both yellow and white sweet corn in your garden or perhaps a neighbor planted a different type sweet corn, multi-colored kernels on the same cob can result.

CORN

General (cont.)

- Q. What is meant by advertisements in catalogs referring to “Super Sweet” varieties of sweet corn?
- A. Certain newly developed “Super Sweet” hybrid varieties of corn may contain up to 40 percent more sugar than some of the old standard varieties. These super sweet hybrids carry one of several genetic factors which can result in a higher sugar content. The sweet character is lost in some types if pollinated by ordinary sweet corn or field corn. If the variety you have has this weakness (usually the Sh2 gene) then it should be planted well away from any other type of corn which will be in silk at a similar time.
- Q. What is the difference between roasting ears and sweet corn?
- A. To most people, roasting ears refers to field corn that is harvested at an immature stage for human consumption. Many people prefer field corn because the ears are larger and the corn can be quite “chewy.” However, there is no comparison in flavor between sweet corn and roasting ears if the sweet corn is grown under proper conditions, harvested at the right stage of maturity and handled properly between harvest time and cooking time.

Disease

- Q. My sweet corn produced normally. However, as the ear was formed, the tip of it became covered with a very white mass that continued to grow and finally broke open and exposed a black, powdery mass.
- A. This is corn ear smut. It is a fungus and is carried in the seed. To avoid this problem, use only high quality seed from a reputable source. There is no chemical control for this disease.
- Q. My sweet foliage is developing reddish lesions.
- A. This is rust. There is no chemical control. Some varieties are less susceptible than others. It does very little damage under normal conditions. However, if infection should occur early and continue to develop, losses may occur.

CORN

Disease (cont.)

- Q. My sweet corn grew for a period of time and then had a mosaic appearance. The corn did not develop properly. What ears were formed were poorly filled.
- A. This is Maize Dwarf Mosaic Virus. It is a common virus occurring on sweet corn in Louisiana. It overwinters in Johnson grass around the garden. To control the problem, it is important that the Johnson grass is followed. There are some varieties which are much more resistant to this disease than others.

Insects

- Q. I planted corn in my garden this fall and it turned out beautifully, but the worms ate more corn than my family. What can I do to prevent this?
- A. Sevin insecticide can be used to spray or dust the ear silks to prevent entrance and egg laying by the adult insect. You must begin dusting and spraying the silks at an early stage and repeat every two days for adequate control. Some gardeners also report that a drop of mineral oil applied on the silks will prevent earworm damage. Sounds like a lot of effort, but may be worth trying. Watch for worms to be especially heavy a week or so after the full moon.
- Q. Are there any truly earworm resistant varieties of sweet corn available on the market today?
- A. No. Some varieties seem to be bothered less by corn earworms than others; however, none are what we would truly call resistant. In general, the higher quality and sweeter the corn, the more likely it is to be bothered by earworms. Varieties of sweet corn which have a relatively tight shuck near the silk seem to be bothered less by earworms and birds than those that have loose and open ends.
- Q. My sweet corn seedlings are laying on top of the ground! Did some soil insect push these out?
- A. It was probably a crow or raven seeking the seed that is found at the base of the young seedling. Check the area for bird tracks.

CUCUMBER

General

- Q. I have planted squash and cucumbers in my garden. Do I need to worry about cross-pollination and resulting off-type fruits?
- A. Odd-tasting fruit from vine crops are often believed to be due to crossing between plants such as cucumbers, cantaloupes and squash. In general, these crops will not cross. Even if they did, the results of this cross would not show up until the seeds from this year's fruit were planted in next year's garden. Be assured that planting cucumbers along with squash in your garden will not result in off-flavor fruit. It's an environmental problem.
- Q. My cucumbers too often become misshapen and gourd-like in appearance.
- A. In general, this is due to poor pollination. Some pollination did occur in the fat or swollen areas. However, uneven pollination often causes the fruit to be misshapen. Moisture stress during fruit development can also cause misshapen fruit.
- Q. Why do my cucumbers bloom a lot but fail to set many fruit?
- A. This is mainly a pollination problem. Cucumbers have male and female blooms, and in order for proper fruit set to occur, the pollen must be transferred from the male to the female blooms. This is usually done by pollinating insects, primarily honeybees. If pollen transfer does not take place, fruit set will fail to occur. Some varieties are 'gynoecious' meaning all female. Each flower can be a fruit if pollinated. Male flowers must be nearby for a pollen source. A 'parthenocarpic' variety will develop seedless fruit without pollination.
- Q. How do you tell the difference between the male and female cucumber bloom?
- A. Female blooms have the small 'immature cucumber' located directly behind the petals. Male blooms do not have the immature fruit. Pollen must be transferred from the male to the female bloom in order for fruit set to occur.

CUCUMBER

General (cont.)

- Q. What causes my cucumbers to become bitter tasting?
- A. Any condition which causes the cucumber plant to go under stress conditions such as high temperature, low moisture, low fertility and even foliage disease can contribute to bitterness. Bitterness is usually associated with those fruit harvested late in the season and from unvigorous, unhealthy, poor-yielding plants. Once the plant starts to produce bitter fruit it should be removed from the garden as all subsequent fruit will be affected in a similar manner. The bitterness is in the skin area and can often be peeled away.
- Q. How can you tell the difference between a slicing type cucumber and a pickling type cucumber?
- A. Slicing type cucumbers are primarily dark green in color, slender in form and are from 6-8 inches in length. Pickling cucumbers have a tendency to be lighter in color and are short and blocky in shape. An important point to remember is that if you intend to put up pickles, then you should grown pickling (processing) types. If you intend to use cucumbers mainly in salads then rely on burpless or slicing types. Pickling cucumbers were developed to go through the brining process and will generally produce a higher quality product.
- Q. Are burpless cucumbers really burpless?
- A. Yes, at least to some people. Many people have gastric problems which prevent them from enjoying fresh cucumbers. However, the new burpless types are milder and cause fewer problems when consumed.
- Q. Is a gherkin simply a small pickling cucumber?
- A. No. True gherkins (which are also called West Indian or Burr cucumbers), produce small, exceptionally spiny fruit which are used exclusively for pickles. The culture of gherkins is similar to that of common pickling cucumbers except that the plants are smaller and require less space. Many of the gherkins pickles you buy are really small pickles.

CUCUMBER

Disease

- Q. My cucumber foliage develops yellow spots on the upper side and a downy growth underneath.
- A. This is Downy Mildew and is an air-borne fungus. It is controlled by using resistant varieties and foliage fungicide applications. The materials Chlorothalonil or Maneb plus Zinc have been used successfully for the control. Downy mildew will most likely be a problem during the cool, rainy days of spring and early fall.
- Q. The foliage of my cucumbers is developing tan spots which drop out giving a tattered effect.
- A. This is Anthracnose or Alternaria leaf spot. The diseases first develop around the crown (center) of the plant and can be controlled with Maneb plus Zinc, or Chlorothalonil sprays. Repeated applications will be required at 7 to 10 days to get good control.
- Q. My cucumber fruit has a rotten spot on the underside of the fruit.
- A. This is Belly Rot and is caused by the soil-borne fungus known as Rhizoctonia. It can be controlled by caging the cucumber or mulching so that the fruit does not come into contact with the soil, and it can also be reduced by growing cucumbers on well drained soil and avoiding the use of large amount of water during the harvest period. Chemical control has not proven satisfactory for the control of this problem at this time; however a Chlorothalonil drench can be applied at bloom.
- Q. The stems of my cucumber plants near the crown appear to be splitting and a brown ooze is forming around these cracks. Soon after that the plants wilt and die.
- A. This is Gummy Stem Blight and is controlled by spraying the crown with Chlorothalonil at runner formation and again weekly.

CUCUMBER

Disease (cont.)

- Q. The roots of my cucumber plants are covered by large swellings or galls.
- A. This is root knot nematodes. Use Vapam as a soil drench. Follow label directions carefully for maximum control. Wait 3 to 4 weeks to replant.
- Q. After the recent rain, the fruit on my cucumbers became covered with a white, cottony-type growth.
- A. This is Pythium which is a soil-borne disease. It is encouraged by heavy rains. There is no chemical control for this. It is suggested that cucumbers be planted in an area that is crowned and well drained. The use of cages, mulch, or growing on a trellis will also prevent this from occurring.

DANDELION

- Q. Is there any secret to growing dandelion in Louisiana gardens?
- A. Dandelion can be grown in gardens and should be treated similar to lettuce. If grown for a fall crop it should be planted in mid-summer. Dandelion is a biennial weed and can become a problem in gardens if allowed to grow unchecked. If you like dandelion, consider also growing Endive or Escarole.
- Q. How is dandelion harvested and used?
- A. Dandelion is extremely high in iron and vitamin A. The young tender leaves fresh from the garden are used in salads or often served with hot bacon drippings, vinegar and crumpled bacon crisps.

DILL

- Q. Are there any particular skills or problems in growing dill in Louisiana?
- A. Dill should be spring seeded in full sun and in a well drained soil. The plants will grow extremely large in some areas and should be supported in some manner. Dill is relatively free of problems although an occasional Dillworm may cause problems, but can be easily controlled with general purpose insecticides or hand picking.
- Q. When do you harvest dill and how is it used?
- A. The leaves should be harvested as soon as the flowers begin to open. If seeds are to be harvested, they should be gathered when ripe which is indicated when they have a flat shape and are brown in color. Both the seed and the leaves of dill are utilized in various ways. The leaves are often used in tartar sauce or butter sauce. It is often found in pickled beets, potato salad and tossed green salads. The seeds have utilization in cheese, breads and rolls. They are also widely used in pickles, sauerkraut and beef dishes.

EGGPLANT

General

- Q. During its early production my eggplant fruit was delicious. Now the fruit we harvest is bitter and has brown areas on it. Is this a fungus?
- A. The bitter fruit is caused by plant stress and subsequent slow growth stimulated by hot, dry conditions. The brown area may be caused by sun scalding of the fruit. If the scalding is not too severe, it can be removed and the eggplant eaten. Phomopsis Fruit Rot also causes leathery spots which are darker in color and ringed. Control Phomopsis with Zineb or Maneb plus Zinc.
- Q. What causes eggplant fruit to become misshapen and often odd colored?
- A. Poor quality eggplant fruit are generally associated with low moisture and high temperature conditions leading to poor pollination. Also, over mature eggplant fruit will become dull in color and often develop a bronze appearance. For maximum production, the eggplant fruit should be removed from the plant before they are fully mature to allow for the development of additional fruit.
- Q. I planted my eggplants early but they never grew much from them on.
- A. Eggplants are very sensitive to cool temperatures. The soil must be well warmed. They are usually set out a week or so after peppers. Most stunted plants never fully recover.

EGGPLANT

Diseases

- Q. One of my eggplants wilted and died within a matter of several days. On examination, I found a white fungal mat at the base of the plant near the soil line.
- A. This is Southern Blight, a soil-borne, warm weather disease. Control is based on rotation and proper decomposition of leaf tissue in the upper soil layer. PCNB can be used at transplanting.
- Q. My eggplant fruit develops a rotted area which extends deep down into the fruit.
- A. This could be several things but is generally Alternaria Fruit Rot. This is not to be confused with Phomopsis fruit rot which is more of a dish-shaped spot which turns brown and has ring-like structures around the spot. It is controlled with the normal spray program used for Phomopsis fruit rot such as Zineb or Maneb plus Zinc.
- Q. As the fruit of my eggplant reaches maturity, it begins to develop brown, ringed, sunken areas and later decays.
- A. This most likely is Phomopsis Fruit Rot and can be controlled with the Ziuneb, or Maneb plus Zinc sprays at 7 to 10 day intervals. It will take repeated applications to prevent this disease.
- Q. The foliage of my eggplant is developing a yellow appearance.
- A. This is eggplant Yellows or virus of eggplant. It is an insect-transmitted virus and can cause severe stunting of the plant and can reduce yields. Infected plants should be destroyed to prevent further spread to surrounding healthy plants. A good insect control program should be carried out during the year.

ENDIVE

- Q. What is endive?
- A. Endive, also called Curly Endive, looks like a frilly loose leaf lettuce. Endive has slender leaves with wavy edges, whereas, Escarole has broader, flat leaves. Both form a flat rosette of leaves which may be up to 18 inches across when mature. Their flavor is much sharper than lettuce.
- Q. What are the cultural and environmental requirements for growing endive and escarole?
- A. Endive and Escarole are grown the very same as lettuce, but will do best when grown for fall or winter harvest in most areas of Louisiana. Both will withstand a considerable amount of cold, but in areas where temperatures fall below 25°F they should be planted early enough to allow sufficient time for them to mature. In the southern parts of the State, early fall planting may occur for harvesting throughout the winter and early spring.

ENGLISH PEA (SUGARPOD)

- Q. I found that the pea foliage became covered with a white, powdery type of material. What is this?
- A. This was Powdery Mildew and is a serious problem on both English and Sugarpod peas. Currently, there is no chemical control cleared by EPA for the control of this disease other than sulfur. It will take repeated applications to keep the mildew under control.

GARLIC

- Q. After harvest my garlic often becomes soft and rots. How can I keep this decay from occurring?
- A. Garlic should be dried thoroughly after it is harvested and hung up in a well ventilated area to prevent rot from occurring. Do not allow it to be exposed to extreme high or low temperatures after harvest. They should be stored at room temperature, around 75°F.

HORSERADISH

- Q. How is horseradish planted and grown?
- A. Horseradish can be grown in North Louisiana and is generally grown from root cuttings. The root cuttings are planted with the small end down and the large end 2 to 3 inches below the soil surface. Planting should be done in the spring and the horseradish will obtain harvestable size in late fall. The quality of the root will not be the same as that grown in the northern states.
- Q. How long does it take horseradish to mature?
- A. Horseradish is generally planted in the spring for harvesting in late fall. If not harvested yearly it can quickly turn into a weed and take over a garden. Many connoisseurs of horseradish recommend that the plants be dug each fall eliminating the chance for the plants to get out of control. Most agree that the quality of the horseradish will be greatly improved if this technique is followed.

JERUSALEM ARTICHOKE

- Q. Does Jerusalem artichoke do well in Louisiana?
- A. Definitely. The Jerusalem artichoke is a hardy, tuber-bearing member of the sunflower family which grows extremely well in all areas of Louisiana. It is propagated by planting whole or cut pieces of the tubers much like potatoes. Tubers which are left in the soil over winter, if not harvested in the spring will grow new plants. Care should be taken because if left unchecked, Jerusalem artichokes may become undesirable weeds and take over the garden area. When planting, they should be set out in rows 3 feet apart with the final spacing of the plants 15 to 18 inches apart in the row.
- Q. When are Jerusalem artichokes ready to be harvested?
- A. Jerusalem artichokes planted in the spring are generally ready during the fall. Harvesting often occurs after heavy frost in the fall or before new growth begins in the early spring. The tubers are reportedly crisper and sweeter after fall frost and especially after remaining in the soil until late winter.

JERUSALEM ARTICHOKE

(cont.)

- Q. Is it true that Jerusalem artichokes are a good source of insulin?
- A. Yes. The carbohydrate insulin is found in Jerusalem artichoke tubers. Insulin hydrolyzes or breaks down to fruit sugar “fructose” which is said to be of value in the treatment of diabetes.

KALE

- Q. When harvesting kale, should you harvest the whole plant or just the more mature leaves?
- A. Harvesting can be performed by harvesting just the older outside leaves or by cutting off the whole “head” at one time. Most gardeners in Louisiana would do best with the method of harvesting the tender, just-matured leaves and allowing the plant to continue producing for an extended period of time. Kale is one of the most cold hardy of the greens.
- Q. Is there a difference between kale and collard greens?
- A. The question is subject to debate among many horticulturists. Some feel that kale is simply a curly leafed form of collard greens and that no real distinction occurs. Others state that there is a definite difference and that a distinct difference occurs in flavor when cooked. It is safe to say that kale and collards are close kin and for the most part are identical in regard to environmental and cultural requirements as well as problems with diseases and insects. Both are Cruciferae Brassica oleraces (acephala group). Both crops are of best quality after the first frost.

KOHLRABI

- Q. What is kohlrabi and how is it grown?
- A. Kohlrabi is a member of the cabbage family that is grown for its swollen, turnip shaped portion of the stem which rests on the surface of the ground. The edible portion can be white, purple or green with a creamy white interior. They are eaten raw in salads or can be cooked much as a turnip.
- Q. Does kohlrabi require any special cultural requirements for growth?
- A. Kohlrabi can be grown anywhere that turnips can be produced. They do best in cool weather with an abundance of moisture to prevent the edible portion from becoming tough and woody. Kohlrabi requires from 50 to 65 days from seed to maturity and should be harvested when slightly larger than a golf ball. Plant in late summer or late winter.

LEEK

- Q. How are leeks different from onions and garlic?
- A. The leek is a member of the onion family, but is generally milder flavored than either onions or garlic. Unlike onions or garlic, they do not form large bulbs or produce cloves but instead develop an edible 6 to 10 inch long round stem which may be as much as 2 inches in diameter. The leek has leaves very similar to that of garlic in that they are flat rather than round and hollow as are the leaves of onions.
- Q. How and when should leeks be planted and how do you know when it is ready for harvesting?
- A. Leeks may be grown from seeds or transplants much the same as onions. They require about 120 days from seed to maturity. In Louisiana they do best when seeded or transplanted in late summer or early fall for harvesting during early winter. Leeks do best when they mature during temperatures averaging below 75°F. Both the leaves and stems of leeks may be eaten. After they reach sufficient size, harvesting can begin on the leaves. Avoid harvesting too many of the leaves as this may affect the growing of the stalk.

LETTUCE

General

- Q. Is it true that leaf-type lettuce is easier to grow than the head-type lettuce?
- A. Yes. Leaf lettuce generally matures fast which makes it ideal for home garden production. Most leaf-type lettuce varieties will mature in 6-7 weeks from seeding whereas head lettuce varieties often require 10-11 weeks. A leaf lettuce will grow well in less light than will a head type.
- Q. Does lettuce seed have to be refrigerated before planting in the garden?
- A. No. Although many people believe this, it is not necessary for germinating to occur. Lettuce should be planted in early spring as soon as the ground can be worked. For fall planting, soil temperatures should average below 80°F in order to assure maximum germination and growth of young seedlings. Celery needs even cooler soil to germinate.
- Q. Why did my lettuce taste so bitter and start to grow tall so quickly?
- A. Most home garden lettuce, especially the Bibb variety, goes to seed quickly in high temperature, long-day conditions. It quickly develops a bitter flavor in this kind of weather. Buttercrunch, Saladbowl, Ruby, and Romaine (Cos) tolerate more of these adversities than other varieties and remain sweet and tender longer.
- Q. Can you tell me what is causing the tip of my lettuce leaves to turn brown and die when the rest of the leaf looks healthy?
- A. Scorch or leaf burn around the margins of lettuce leaves can be common in Louisiana gardens. Although in some cases a disease may be associated, this disorder generally is the result of some type of root injury bringing about moisture stress at the leaf margin. Too much fertilizer, nematode injury, root pruning from close cultivation, herbicides or deficiencies of certain nutrients such as potassium and calcium can cause marginal leaf burn. Most of the time this problem is associated with low soil moisture. As the lettuce approaches maturity, which is a high water use time, cells at the edge of the leaf may dry due to the leaves using more water than the roots can take up. Maintaining good moisture by adequate watering and utilization of mulches can help this problem.

LETTUCE

General (cont.)

- Q. Why does my lettuce often flower and never form a head?
- A. Generally this is because it was planted at the wrong time of year. Lettuce needs cool weather to produce quality heads. Hot weather in combination with long days causes it to form seed heads or “bolt.” Bolting may occur without the lettuce forming an edible head.

MUSTARD

General

- Q. When harvesting should you harvest the entire mustard plant or just the most mature outer leaves?
- A. Mustard greens may be harvested by pulling up the entire plant or by harvesting the more recently matured leaves. Since mustard greens are a relatively fast maturing crop and do best when growing under cool conditions, it is generally advisable to harvest the entire plant at one time for highest quality greens.
- Q. Why do mustard greens sometime have a very strong, bitter flavor?
- A. Mustard greens should mature under relatively cool temperatures if high-quality, tasty leaves are expected. Conditions such as high temperature, low moisture, low fertility, or in general poor growing conditions can often cause mustard greens to develop off-flavor.

MUSTARD

Diseases

- Q. After the recent foggy weather, my mustard developed yellow spots on the upper foliage which broke open on the underside to reveal a white spot.
- A. This is White Rust. It is a serious problem on mustard and can cause severe losses. It is systemic within the plant once it becomes established and can cause very serious economic losses. The disease is favored by cool temperatures and intermittent rain or heavy fog. It can be controlled with the Maneb plus Zinc sprays applied at the first sign of disease (there is a 10 day wait). Once the disease is observed in a planting of mustard, the disease leaves should be stripped from the plant so that they will not serve as a source of secondary infection. Side dress with ammonium sulfate to stimulate new growth. Other plants which are affected are turnips, radishes, rutabagas, and spinach.
- Q. My mustard leaves are distorted and seem to have a yellow mosaic pattern.
- A. This is caused by a virus which results in the disease known as Turnip Mosaic. There is no control for this other than a good insect control program and rouging of the diseased plants as soon as they show up to prevent further spread. It is transmitted by aphids. Other plants which will have this same problem are turnips, rutabagas, and radishes.
- Q. My mustard has yellow spots on the foliage.
- A. Most often yellow spots on the foliage are the result of a fungus known as Downy Mildew. This is air-borne and can cause severe loss of foliage during periods of dews, light rain, and mild temperatures. It is controlled with a Maneb plus Zinc or Zineb fungicide spray. Repeat at 7 to 10-day intervals until controlled, then wait 10 days to harvest.
- Q. After the recent rains, my mustard began to have wet, slimy spots on the leaves and the leaves quickly rot.
- A. The rapid, slimy breakdown of the leaf tissue is most often caused by a bacterial soft rot. This is caused by a soil-borne bacteria. There is no control for this disease other than rotation, selecting good-quality seed, and planting on a raised bed.

OKRA

General

Q. How often should okra be harvested and how can you tell when it is ready to harvest?

A. Okra requires frequent harvesting. For peak quality, it must be harvested before the pods become tough. Okra matures rapidly, especially in hot weather. Approximately four days are required from flowering to harvest maturity. Okra should be harvested every other day. Pod size will vary with variety, but will generally be 4 to 6 inches long. Test larger pods by cutting through them with a sharp knife. If it is resistant to cutting through, they are tough and unsuitable for serving. Old pods must be removed from the plant or it will stop producing. A quick test is to snap the pod tip. Pods mature from the tip to the stem so this part gets tough and stringy first.

Q. Can okra plants be pruned during mid or late summer for additional production until the first killing frost?

A. Yes, although it is questionable whether or not it might be best to simply make a mid-summer planting rather than to prune off spring seeded plants. When pruned, the plants will develop a bush appearance rather than a single tall stalk which usually makes harvesting more difficult. If pruning is to be practiced, it should be done 100 days before first anticipated fall frost in order to give the pruned plants time to produce additional pods. Side dress pruned plants to stimulate regrowth.

Q. Can seed from this year's okra crop be saved for next year's planting?

A. Yes. Okra is a self-pollinated crop and seed can be saved from one year's garden to the next. If you allow okra pods to remain on the plant and fully mature, subsequent production is greatly curtailed. Toward the end of the season allow some of the pods to remain on the plant and harvest them when they become fully mature and almost dry. Using old okra seed may lead to a very poor stand.

Q. Is there anything special about the red podded varieties of okra?

A. No. This is simply a selection or variety which produces red colored okra. When cooked, the red color disappears, and the pods take on the normal green appearance.

OKRA

General (cont.)

- Q. Some unknown insect must be feeding on my okra leaves and stems. There are small drops of liquid oozing from various areas on the plant. What can be used to prevent this?
- A. Chances are what you are describing are natural secretions from the okra plant through glands found on the leaves and stems. This is a natural process of the plant and is causing no damage.
- Q. What causes my okra to not grow properly when planted in the early spring?
- A. More than likely it was planted too early. Okra is a close relative of cotton and should be planted about the same time cotton is planted. If planted before soil temperatures warm up to more than 60°F and before night temperatures average above 65°F, okra fails to grow properly. During most years, okra should be planted 3 to 4 weeks after the anticipated last spring frost in order to produce an abundant supply of fresh garden okra.
- Q. I transplanted some okra which I purchased at a local nursery. It is stunted and just sitting there. What should I do?
- A. Please, don't waste your garden dollars! Crops such as beans, beets, cantaloupe, carrots, chard, collards, corn, cucumbers, kale, mustard, okra, peas, radishes, spinach, squash, turnips, and watermelons should always be planted from seed. These plants are very difficult to transplant, and generally transplanting offers no real advantage over seeding directly in the garden.

OKRA

Diseases

- Q. Are there any major foliage diseases that affect okra in the garden?
- A. There are a number of foliage problems that occur on okra. One of the most commonly observed is that of Ascochyta. This is a disease that is normally found on cotton which is a very close relative to okra. Losses from this disease do not warrant a control program.
- Q. My okra did not grow properly last year, and when I removed it at the end of the season, I found the roots to be damaged by galls and swellings.
- A. The damage was a result of root knot nematodes. Use Vapam soil fumigation to control this problem. Follow the label directions closely. Wait 3 to 4 weeks to replant.

Insects

- Q. What causes some of my okra pods to be crooked and bent rather than nice and straight in shape?
- A. This is generally caused by insect stings. An insect such as a stinkbug will pierce the pod resulting in that side of the pod stopping its growth. As the other side of the pod grows normally, the pod becomes crooked rather than straight.

ONION

General

- Q. When setting out my onion transplants, how deep should they be set?
- A. Many people believe that planting the onion too deep will prevent it from bulbing. This is not true. When transplanting, the onion plants should be placed approximately one inch deep or at least deep enough to support the plant and keep it from falling over. One simple way of doing this is to hold the plant's neck between your thumb and index finger and push it into the loose soil until the end of your thumb comes in contact with the soil's surface.
- Q. Is it necessary to remove the garden soil from around my onion bulbs in the spring in order to make large bulbs?
- A. Absolutely not, that is unless they are growing in concrete. Bulbing of onions is controlled by variety, temperature and length of day. When all the required conditions for bulbing are met, the onion will bulb. Removing the dirt from around the base of the plant will not increase bulbing, although it appears to because the bulbs are visible. This operation may do more damage than good, especially if white varieties of onions are grown. Removing the soil from around white onions results in "sunburning" which causes the top of the bulbs to become green.
- Q. What are some varieties of green onions that will grow well in Louisiana?
- A. Green onion is an artificial term that is used by many to simply describe an immature onion. Even the large bulb onions, such as Grano or Granex, can be harvested immature and utilized as green onions. In fact, many gardeners who seed these varieties of onions directly in their garden selectively thin them as they grow and use the thinning as green onions. Evergreen Bunching and Bellsville Bunching are varieties that will not form bulbs but produce clusters of four to eight slender, white onion stalks almost exactly like a shallot. The shallot, which is a multiplier type of onion but with a milder flavor, is mostly utilized as a green onion here in Louisiana.

ONION

General (cont.)

Q. What is the difference between a set and a transplant?

A. Although many gardeners in Louisiana use these terms interchangeable, there is a difference. An onion "set" is actually a small bulb, generally one-half to one inch in diameter. It has been produced under conditions which caused it to rapidly make a small bulb which, when planted in the garden, will produce a larger bulb. An onion transplant is an onion plant from 8 to 10 weeks old which has not gone through the bulbing process, and if planted at the right time will produce large bulbs.

Q. What is a "bunching" onion?

A. Bunching onions are usually green onions that are grown to size, harvested, and gathered into a bunch. They may or may not be a multiplier. Multiplying onions like Evergreen White Bunching are onions that divide into several stalks like a shallot does. All may be grown from seed, set or transplants. These onions do not form much of a bulb if any at all. They are all cold hardy and over winter well.

Q. What is the difference between shallots and green onions?

A. A true shallot is a member of the onion family (Aggregatum group) that lives for many years and is grown for its mild, semi-garlic flavored bulbs. The plants will grow to be about 18 inches to 2 feet tall and often times bear white or violet flowers in early summer. A green onion is a use classification which may consist of any type of onion harvested at an early stage.

Q. Every year I buy onion plants to set out in the spring in my garden? Some years they make nice size bulbs and other years they don't. Why?

A. This is a common question asked by literally thousands of people every year. Unfortunately, the answer is not easy. First of all, be sure to obtain varieties which will bulb in your particular area of the State. Always buy plants which are about the size of a lead pencil. Larger plants will not produce earlier or larger bulbs. Generally, a large onion plant will produce a seed stalk after planting rather than forming a large bulb. Always set the plants out in your garden at the right time for your area.

ONION

General (cont.)

Q. Should I break over the tops of my onion plants to get a larger bulb?

A. This question comes up quite often among gardeners who are interested in large onions. Breaking over the tops of onion plants will not increase bulb size and may, in fact, prevent bulb enlargement after the tops are broken over. Onion bulbs increase in size as sugars manufactured in the top are translocated to the bulb. If the tops are broken over this process stops thereby preventing further bulb enlargement. Breaking the tops over near harvest can however, help to toughen the bulb for better storage.

Q. What is the difference between green onions, leeks and scallions?

A. To many these terms are used interchangeably. However, probably the only interchangeable term is that of scallion in that scallions may describe leeks or green onions. A leek usually has a much milder flavor than onions, and to the connoisseur of onions and their relatives, there is a distinct difference between leeks and green onions. Leek is Allium porrum and the plant looks more like a garlic plant in structure.

Q. What are the varieties of onions that I should plant in order to make large, sweet bulbs?

A. For the most part, you should plant the varieties Grano, Granex or, if you prefer the red onion, Burgundy. These onions are considered short-day onions and are of the Bermuda type. Planted at the right time for your area of Louisiana and given proper moisture and fertility they should be make large, sweet bulbs like those you find in the spring in local grocery stores.

Q. What causes my bulb onions to send up flower stalks?

A. Flowering of onions can be related to several things, but primarily temperature. An onion is classed as a biennial which means it usually takes 2 years to go from seed to seed. However, this condition is triggered mostly by temperatures. If an onion plant is exposed to alternating cold and warm temperatures resulting in the onion plant going dormant, resuming growth, going dormant and then resuming growth again, this condition generally results in the premature flowering or 'bolting' of the onion bulbs. Flowering can be somewhat controlled by planting the right variety at the right time. If transplants are used, use only those that are pencil sized or smaller in diameter and not

much larger. At cool temperatures (50-60°F) and short winter days (9-12 hours) older, more mature plants will go to seed readily when the weather breaks.

ONIONS

General (cont.)

- Q. Should I remove the flower stalks from my onion plants?
- A. You can if you desire, but it really doesn't do much good. Once the onion plant has "bolter" or sent up a flower stalk, there is absolutely nothing you can do to eliminate this problem except make them look like they haven't flowered by removing the flowering portion. In general, the onion bulbs are still edible but will be reduced in size since they are split by the flowering condition. Use these onions as soon as possible as the green flower stalk which emerges through the center of the bulb will make storage of the bulb almost impossible. Prevention of seed formation in a plant will normally divert some photosynthate back into the vegetative part.
- Q. After harvesting, what is the best way for me to store my onions?
- A. Hopefully, you have allowed your onions to fully mature in the garden. This is indicated by the fall of the onion top. After most of the top has fallen, the onions should be pulled up and dried in the garden for several days. Some gardeners prefer to partially pull the onions up which allows the onions to dry down while still in the ground. After drying, remove the roots and the top, leaving about one inch of the neck to seal and prevent entrance of decay organisms. Onions should then be stored in a relatively cool, dry place. Remember that most Louisiana grown onions, being mild and sweet, will not store as long as northern, more pungent varieties. Maximum length of storage expected of Louisiana onions will run from two to three months. The Creole C5 is a pungent variety that stores better than others.

Disease

- Q. Why do my onions always rot when I harvest them and try to store them for any period of time?
- A. In most cases, we find that onions decay in storage as a result of Neck Rot. This is caused by a fungus that is soil-borne. When harvesting onions, it is best to wait until most of the tops begin to dry and fall over. Once this has been done, then the plants should be lifted and allowed to dry as much as possible. Once the drying has occurred, then the tops should be clipped to 1 inch and the cut area dried out for one to two days under direct sunlight. By doing this, you will dry up the cut tissue and thus eliminate it as a possible site for infection to occur. The onions should then be placed in a well ventilated area and in some type of sack or container that allows free movement of air around the onions. If the onions are to be stored and kept for any period of time, it is

also important that a good fungicide program be carried out during the growing season so that diseases such as Tip Blight and Purple Blotch do not become established and enter into the bulb.

ONION

Disease (cont.)

- Q. My onion plant foliage has purple spots which result in death of the leaf.
- A. The purple spot is caused by a fungus, and the disease is known as Purple Blotch. The fungus is air-borne and infects onions during extended periods of dews and intermittent rain. The loss of foliage from infection by this fungus can result in small bulbs and can also result in secondary rots which prevent the bulbs from storing properly. Control is through the use of fungicides. Maneb plus Zinc or Zineb have found to be the most effective. They should be applied at 7 to 10 day intervals as long as weather conditions favor disease development.
- Q. The tips of my onion leaves turn brown and have gradual dieback of the leaves down to the bulb.
- A. This may be a foliage disease known as Tip Dieback of onions. It is suspected to be caused by the fungus Alternaria. It is commonly associated with plants that are not growing properly. Pink Root can also cause a weakening condition of the plant which encourages continued dieback of the leaves. Although the Maneb type fungicides have some effect on this, they have not proven totally effective. The total cultural picture should be considered when tip dieback becomes a problem because low soil fertility or other stresses may cause a tip dieback.
- Q. My onion plants appear to be stunted and not growing properly. When I remove them from the soil, I find that the root system is deteriorating and has a purple pink appearance.
- A. This is Pink Root of onions. It is a soil-borne fungus that is most often found in sandy, cool, wet soils. There is no control for the disease at this time other than rotation. When buying onion transplants, look at the transplants closely for the presence of pink roots on the young plants. If a large percentage of the plants are found to have Pink Root, then they should not be planted and should be returned to the store. Most onion transplants are certified free of Pink Root. It is best to buy only those plants that carry this certification. Also use varieties resistant to Pink Root such as Grano PRR and Granex PRR.

PARSNIP

Q. What are parsnips?

A. Parsnips are commonly grown in Europe and in many northern areas of the United States, but are not too popular a garden vegetable in Louisiana. They are grown for their delicate tasting, carrot-like roots which may grow to be 15 inches long and 3 to 4 inches across at the top. The plants are biennials but are grown as annuals and should be harvested before the second year's leaves start to grow.

Q. Can they be grown in Louisiana?

A. Yes. Parsnips should be planted in early fall in Louisiana so they will mature under cold weather conditions. The roots taken from 100 to 120 days from seed to maturity and must be subjected to cold near the freezing point in order to change the starch to sugar and give the parsnip its flavor. Parsnip roots may be left in the ground all winter or dug out and stored in the refrigerator until needed. Most gardeners who have had experience with parsnips indicate their flavor is enhanced if the roots are left in the ground throughout the winter.

Q. How are parsnips used?

A. Parsnips can be parboiled or steamed in their skins and then peeled and sliced lengthwise. One favorite way of preparing parsnips is to pan glaze them with butter and a touch of brown sugar and nutmeg. They taste very much like candied sweet potatoes. Others prefer to puree the boiled parsnips and blend in butter and cream and top with breadcrumbs.

PEA

General

- Q. Can southern peas be grown in the early fall in Louisiana as well as in the spring?
- A. Generally, yes. However, the best quality and set of southern peas occurs when they mature during relatively warm temperatures. Planting in late summer for fall harvest also results in more problems due to insects and diseases during the early stages of growth.
- Q. What causes my southern peas to grow extremely large vines but fail to set any pods?
- A. Although failure to set pods can be caused by a number of things, the most common problem is over fertility. Southern peas, if over fertilized, have a tendency to grow large plants but fail to set many, if any, pods. Some natural soil fertility may even be too rich. Thrips, an extremely small insect which attacks the spring blooms of southern peas, can also result in poor pod set.
- Q. Can I save seed from this year's blackeye pea crop for next year's garden?
- A. Yes. Peas are self-pollinated and seed may be saved for planting in next year's garden. However, this is not a recommended practice as there are several different types of diseases that may be seed borne and which may show up if seed are saved for later plantings.

Insects

- Q. My southern peas come up every year looking as if they have been damaged. The leaves are curled and snarled. What is my problem?
- A. The apexes or shoots of the leaves were damaged when they were very small by a tiny insect called a Thrip. The Thrip rasps the tissue of the leaf's growing point causing it to "bleed" or secrete plant juices. The Thrip then feeds on these juices. Most plants recover from this damage, but Thrips can be controlled by the use of Diazinon or Malathion at 7 to 10 day intervals. Spraying should begin when plants have just emerged since most damage occurs then.

PEA

Diseases

Q. My peas are developing powdery, reddish lesions on the underside of the leaves.

A. This is rust and can be controlled with foliar sprays or dusts of sulfur, Chlorothalonil, Capton, Zineb or Maneb plus Zinc. It is important that you begin applications at the first sign of disease and that these be repeated on a 7 day interval. Rust is more of a problem on peas and beans in the fall than it is in the spring.

Q. My pea foliage developed an olive green substance on its lower side.

A. This is Cercospora leaf spot. It can best be controlled with foliar sprays of Zineb. Begin at first sign of the disease and continue at 7 to 10 day intervals as long as weather conditions are favorable for disease development.

Q. The young peas on my southern pea plants developed a black, fuzzy growth before they reached maturity.

A. This is Chaenophora Fruit Rot which is the same as that which occurs on squash. It can be controlled with foliar sprays. However, losses from this should be very minimal on peas, and for that reason, control is generally not recommended.

Q. My pea plants died rapidly in an area in the garden, and it seemed to move from one plant to another down the row.

A. This is most likely Fusarium Wilt. It is a soil-borne disease and can best be controlled by rotation.

Q. My southern pea plants were very much reduced in size, and yield was low last year. On examination of the root system, I found galls and swellings on the roots.

A. This is root knot nematodes. The variety Mississippi Silver has resistance to this problem and should be used where nematodes are a problem. Soil fumigation with Vapam will also reduce nematode numbers. Rotation of extra organic matter and summer fallowing will help reduce the number of nematodes in the soil.

PEPPER

General

- Q. Why do my pepper plants often bloom but fail to set fruit?
- A. Peppers, like tomatoes, are very sensitive to temperature. Most peppers will drop their blooms when daytime temperatures get much above 90°F in combination with night temperatures above 70°F. They will also drop their blooms in the early spring if temperatures remain cool for extended periods of time. Hot peppers, such as Jalapenos, take hot weather fairly well and can often produce between 70 and 75°F for bell type peppers and between 70 and 85°F for hot varieties. Over fertility especially with N can cause a large bush with poor set.
- Q. Is it true that if I remove the first few blooms on a pepper plant my overall production will be increased?
- A. There may be some truth to this. This is especially true with bell peppers. Occasionally if a bell pepper plant sets the first bloom that flowers, the plant will be somewhat stunted as it matures that fruit. This is especially true if the plant is growing under marginal conditions which might include low fertility or perhaps low moisture. By removing the first bloom that sets the plant will grow larger before setting fruit which often does result in higher total yields. However, if the plant is grown under satisfactory cultural conditions removing the first bloom should have no effect on subsequent yield. A side dressing of N before the first set may also discourage early set and encourage a large bush for later heavy yields.
- Q. Is it true that if you plant hot peppers beside sweet peppers, the sweet pepper plant will produce hot fruit?
- A. Usually not. Peppers are like tomatoes, self-pollinated, although an occasional crossing will occur. The result of this crossing can show up on this year's crop because most of the hotness is in the seed. It will however, not result in dramatic differences in fruit characteristics of this year's crop.

PEPPER

General (cont.)

- Q. Can I cut back my spring planted pepper plants in later summer for increased production later on?
- A. Yes, although this is not generally a recommended practice. In most parts of the state, spring planted pepper can be carried through to first killing frost without any type of pruning action. Larger plants will need staking. Pruning should not be severe in southern parts of the state as excess foliage removal can often result in burn, stunting, or even death of the plants. Side dress after pruning.
- Q. Is there any difference in taste or nutritive value of green peppers to those that mature and turn red?
- A. Peppers that are allowed to fully mature and go through the entire ripening process, generally go from green to yellow to red. Red rip is actually higher in vitamin content. This is especially true with regard to Vitamin A. There is very little difference with regard to taste although there is an increased sweetness and difference in texture due to the ripening process.
- Q. How can you tell when Jalapeno peppers are mature?
- A. Jalapeno peppers are edible and flavorful at all stages of their growth. However, the connoisseur of Jalapeno peppers can distinguish a definite flavor difference between a fully mature Jalapeno and one harvested early. A fully mature Jalapeno pepper, regardless of size, generally exhibits small cracks around the shoulders of the fruit. Often a somewhat darkened area on the fruit itself indicates maturity and the initial stages of a color change in the fruit.
- Q. Can I save from this year's pepper for planting my next crop?
- A. Yes. Peppers are self-pollinated and consequently will breed true if seed is saved from this year's garden for planting in next year's garden. Although an occasional cross-pollination will occur, this is generally not a problem. Do not save seed from hybrid pepper plants as these will not breed true and if saved and planted will result on plants exhibiting the characteristics of the original parents, which are often undesirable.

PEPPER

Disease

- Q. My pepper fruits have scalded dead areas. Is it a disease?
- A. Probably not. It is either sun scald or a physiological disorder called end rot. BER is located toward the pepper bottom and is darker in color than the whitish-tan of sun scale. The scald can occur wherever the fruit is sticking out into direct sun. Have the soil fertility (Ca and Mg) checked and be careful with N for BER. Use a bushier variety and encourage foliage for sun scald.
- Q. My pepper foliage developed spots and the leaves have dropped off.
- A. This could be a combination of three different foliage diseases: Alternaria Leaf Spot, Cercospora Leaf Spot, and Bacterial Leaf Spot. In most cases, two or more of these will be occurring at the same time on the foliage. They can be controlled with foliar sprays using a combination of Maneb plus Zinc or Zineb with Kocide or some other copper type fungicide. Begin at the first sign of the disease and continue at 1 to 2 week intervals during the critical disease periods.
- Q. The foliage and fruit of my pepper plants are distorted and reduced in size. The leaves tend to have a mosaic type pattern.
- A. This could be one of five different viruses that attack peppers in Louisiana. The best method of control is to buy good, healthy plants and to make sure that they are maintained in a healthy manner by following approved cultural practices and a good insecticide program. The viruses are transmitted by aphids and trips. For this reason, it is important that insects be controlled. Also, when a plant becomes infected with one of the viruses, that plant should be removed.
- Q. After the recent rainfall my plants began to wilt, and death occurred soon after. On examination of the plant, I found the inner stem to be very dark.
- A. This is Phytophthora Stem Rot. It is a soil-borne fungus that attacks peppers. It is particularly severe in those areas where water stands around the plant. Plant on a raised bed so that drainage around the plant will be optimal.

PEPPER

Disease (cont.)

- Q. After a recent rain in summer, my peppers died rapidly. In examining them, I found a white growth at the base of the plant, and intermingled with this growth were small, round beadlike structures about the size of a pinhead.
- A. This is southern blight and is a soil-borne fungus. Crop rotation and deep burial of organic material will help control it. Do not allow leaves to collect around the base of the plant as they will serve as a food source for the fungus to develop on and then later develop on the peppers. Use PCNB at transplanting.

POTATO

General

- Q. I used potatoes purchased at the grocery store as seed for planting, and they rotted without ever sprouting. Why?
- A. Many potatoes sold for fresh market consumption have been treated with chemicals to prevent sprouting in storage. These chemicals will also prevent or distort sprouting after planting. Another possibility is that the potatoes that you purchased in the store were from this year's crop and had not been stored properly to break the rest period. Potatoes have a rest period of about 90 days which must be broken before the seed will sprout. Cool temperatures or extremely warm temperatures can break the rest period and allow potatoes to sprout. Next time plant certified seed that has been properly stored.
- Q. Can I save small potatoes from my spring crop for planting in the fall in my garden?
- A. Yes. This is commonly done, primarily due to the problem of finding good seed potatoes in the fall in Louisiana. They will also rot less and produce a better stand. Sometimes a problem exists in that the potatoes saved from the spring garden fail to sprout when planted in the fall. This is due to a natural "dormancy" which exists in newly harvested potatoes. One recommended procedure for breaking the dormancy includes harvesting the potatoes and placing them in a relatively cool storage area, preferably in the range of 50°F until about 3- to 4- weeks before the anticipated fall planting date. At that time the small potatoes should be removed and maintained at normal environmental conditions until planting time arrives. Maintaining the seed potatoes at a high humidity during this time by covering with moist burlap bags or some similar material will also aid in initiating sprouting. The small potatoes should be planted whole and not cut in order to lessen loss due to rotting in the warm fall soils. You may also buy more than you need in the spring and refrigerate the extra tubers till fall.
- Q. When cutting seed potatoes into pieces, what is the recommended size for each piece?
- A. Research has been shown that the best size seed piece weighs approximately 2 ounces. Each seed piece should contain at least 2 "eyes." If seed potatoes are expensive or scarce, the size can be reduced one half ounce, although make certain each piece contains at least one eye.

POTATO

General (cont.)

- Q. Sometimes my potatoes develop a green color and I also see this same condition at local supermarkets. Are these potatoes poisonous?
- A. Yes. Potatoes that exhibit a green color contain a substance known as Solanine. This substance, if consumed in extremely large quantities can cause severe illness or even death. This “greening” of potatoes is due simply to their exposure to light which can occur during the growing period or due to excessive exposure to artificial lights at local grocery stores. Under garden conditions, this is most common following heavy rains in which the rain uncovers potatoes near the surface exposing them to sunlight resulting in the subsequent greening of the tuber.
- Q. How do I know when my potatoes are ready for harvesting?
- A. Maturity of potatoes is generally indicated by the plant6 tops in that they often start to turn yellow. Potatoes generally require from 75- to 140- days from planting to maturity depending upon variety as well as season of the year in which they are grown. Immature potatoes will often skin and bruise extremely easy. When digging potatoes, if the skin is not “set” and is easily removed, harvest should be delayed. Spring planted potatoes should be dug before the soil becomes excessively hot. Avoid harvesting the potatoes when the soil is wet to lessen the problems caused by diseases. Knocking the tops down a week or so before harvest may help the skins to set better.
- Q. I have some seed potatoes left over from my spring garden. Would it be alright to eat them?
- A. Potato tubers purchased for seed purposes should definitely not be eaten. Frequently such tubers have been treated with chemical solutions for the purpose of breaking the “rest period” of the potatoes. This rest period occurs after harvest when the tuber buds will not develop sprouts even though environmental conditions may be favorable. Therefore, like all “treated seeds,” seed potatoes should not be eaten as food by humans or animals.

POTATO

General (cont.)

- Q. After harvesting, how should I handle my potatoes to result in the longest storage time possible?
- A. Potatoes should be dug when the soil is relatively dry, being very careful not to skin or bruise the tubers. Do not wash the potatoes. Place them in crates or some suitable container and store them in a dark area for about 10 days at a temperature of about 60°F with a relatively high percent humidity. After this curing period, the potatoes should best be kept at 40 to 45°F with the humidity near 85 percent and good air circulation provided.
- Q. Can Irish potatoes be left in the ground for storage?
- A. Generally, no. Cool, humid conditions (40 to 45°F, and 85 percent relative humidity) are best for Irish potato storage. Chippers are held 5 degrees warmer. These conditions can be obtained only in special potato storage buildings. Leaving the potatoes in the ground with a heavy mulch to keep the soil cool will provide good temporary storage if the soil is cool and not water saturated. It must also be free of wireworms and grubs. It would be very difficult over a period of several months to keep the potatoes dry enough while in the soil to prevent second growth or sprouting. Several weeks at high temperatures can break the rest period in home grown potatoes after which sprouts will develop on the tuber. All things considered, it is better to dig the potatoes and put them in a cool, damp area.
- Q. Why do home stored Irish potatoes have a different flavor in the winter than they have in the summer?
- A. This is a question that often occurs in winter months after the potatoes have been dug and are in storage. Irish potatoes stored at temperatures below 50°F will have a tendency to be sweeter tasting with a more stringy consistency than those stored at warmer temperatures. At temperatures less than 50°F, enzymes within the tuber convert starch into sugars. This causes a sweeter taste and the more stringy consistency. Sugars within the potatoes can be converted back into starch by storing the potatoes at temperatures above 65°F for a week or two prior to using. Many gardeners will store the potatoes in large lots in cooler temperatures to keep them from sprouting and keep a small quantity inside the house for use.

POTATO

General (cont.)

- Q. My potato plants had small tomatoes on them this year. I had them planted next to my tomatoes. Could they have crossed or have my potatoes mutated?
- A. This question comes up quite often. The answer lies in the close degree of kinship between the potato and a tomato. Both the potato and tomato are the same botanical family and as a result have a very similar growth characteristics. The fruit that you are seeing on the potato plant is actually the fruiting structure of the potato plant itself. The potato flower looks very much like the tomato flower and is pollinated and fertilized just as the tomato flower. The fruit will mature providing the plant is left long enough. Rest assured your potato and tomato plants have not cross fertilized.
- Q. What is a Topato" which is seen advertised in many gardening publications?
- A. This Topato is a patented name which is used by a commercial company to supposedly describe a plant which produces tomatoes above ground and potatoes beneath the ground. If a Topato is ordered, you will receive several potato seed pieces, a few tomato seed and usually a razor blade with instructions as to how the Topato should be planted. This generally consists of hollowing out the potato seed piece, placing several tomato seed in the hollowed out area and planting the result in the garden. If germination and growth occurs, what you will find is both a tomato and a potato plant above as well as the roots of both beneath the ground. Be assured that the result will not be a "cross" of some type resulting in one plant with the ability to produce both tomatoes and potatoes.

POTATO

Diseases

- Q. The stems of my Irish potato plants are covered with decayed areas. They do not seem to be killing the plants but are weakening them.
- A. This is Rhgizoctonia. It is a soil-borne fungus that does attack stems and seed piece causing decay. Seed piece treatment using one of the approved seed piece fungicides is the best means of control. Captan, Zineb or Maneb plus Zinc have proved to be the better ones used. Follow the label and instructions very closely to get maximum control from the treatment.
- Q. In one area of my garden after a recent rainfall, the plants began to die very rapidly. In examining the plants, I found the stem to be rotted. There seems to be a dark discoloration moving up the stem to the top of the plant, and the stem has a very foul odor to it.
- A. This is Black Leg of potatoes, and it is one of the major bacterial problems on potatoes. To avoid this, plant only in those areas that are well drained. Seed piece treatment will also help prevent the entry of other organisms and will not allow the bacteria to enter. The best method, as indicated, would be to plant on a raised bed and in a well drained area.
- Q. When I dug my potatoes, they were covered by small, raised bumps.
- A. This is root knot nematodes. It is a serious problem on Irish potatoes. It can be controlled with soil fumigation using Vapam as a preplant treatment. Rotation should also be used where nematodes have become a major problem.
- Q. After I dug my potatoes, I found that they were rough appearing with deep scars.
- A. This is Potato Scab. This is caused by a soil-borne organism. To control this problem, maintain an acid soil (less than 5.5) around your potato plants. Maintain a uniform moisture level during the time the potato is formed until it is harvested. Seed piece treatments using Captan or Maneb plus Zinc have proven somewhat effective in preventing this problem.

POTATO

Diseases (cont.)

- Q. The lower foliage on my potato plants is beginning to turn yellow and is covered with brown spots.
- A. This is Early Blight of potatoes and is similar to that found on tomatoes. Begin spraying as soon as spots are observed and repeat at 7 to 14 day intervals for 2 to 3 sprays. Use Chlorothalonil or Maneb plus Zinc.
- Q. My potato foliage is distorted, rolled, and does not seem to be as thrifty as it should be.
- A. There are a number of viruses that attack Irish potatoes. The best means of controlling or preventing losses from potato viruses is to use only certified seed pieces when selecting potatoes to plant.

PUMPKIN

General

- Q. “What causes my pumpkin to produce very few fruit?
- A. Poor fruit set on pumpkin is commonly caused by having the plants too thick which produces too many leaves which discourages pollinating insects. Like other members of the cucurbit family, pumpkins require bees for pollination. They produce male and female flowers and pollinating insects must transfer the pollen from the male to the female insect activity will greatly reduce fruit set.
- Q. Will pumpkins cross with squash, watermelon or cucumbers resulting in off-type fruit?
- A. Varieties of the true pumpkin (moschata and pepo species) cross readily with each other, but this crossing will not be apparent unless seed are saved from this year’s fruit and planted for next year. Pumpkins will cross with varieties of squash. All varieties of “summer squash” (pepo species) are in reality true pumpkins and will cross readily with each other and with other pumpkins. If you grow both summer squash and pumpkins in your garden, you should not save seed for planting in next year’s garden. ‘Pumpkin’ is a use term meaning a coarse flesh squash –SEE CUCURBITACEAE CHART—
- Q. Will it help to remove the tips of my pumpkin vines late in the season to encourage fruit size?
- A. The tips of vining pumpkins may be removed about 45 days prior to the anticipated first fall frost to encourage plants from further spreading. This practice will generally encourage larger fruit and will not harm production as any additional fruit which might set after that time will not ripen before the first killing frost of the fall. If a giant pumpkin is desired, choose a large fruited variety and allow only one fruit to develop on the vine.

PUMPKIN

Diseases

- Q. When I raise pumpkins in the fall of the year, I find that the foliage becomes covered with a white, powdery, dusty material. What can I do to prevent this?
- A. This is Powdery Mildew. It is an air-borne fungus and grows on the outside layer of cells of the leaf. It can be controlled with sprays of benomyl if applied early and on a regular schedule. There are no resistant varieties to this disease, and if the disease is not controlled, it can completely kill the plant.

RADISH

General

- Q. What causes my radishes to fail to bulb fail to bulb?
- A. Radishes will fail to bulb for several reasons. Usually, they are not properly thinned and growing too close together. Radishes should be seeded 2 to 3 seeds per inch and then thinned when they are about 1 to 2 inches tall to a spacing of at least one inch apart. Radishes will also not bulb properly when forced to mature during temperatures above 80° to 85°F. They should be grown in full sun or close to that. Improper fertility, wither, starvation or high N can also create this problem.
- Q. Sometimes my radishes have a hot, bitter flavor rather than the typical radish taste. What is the problem?
- A. Generally, off-flavored radishes are due to planting at the wrong time or poor cultural practices such as low fertility or low moisture resulting in slow growth. For highest quality, radishes should grow fast. Fast growth can be brought about by adequate fertility and maintaining the soil in a good moisture condition.
- Q. What causes roots of radishes to crack?
- A. This is usually a matter of waiting too long before harvesting the radishes. Cracking is caused by fluctuations in moisture which causes the root to rapidly swell and crack. This is especially important near maturity or expected full size of the radish roots.
- Q. Are the leaves of radish plants edible?
- A. Radish leaves are not poisonous and can be consumed although they have a somewhat strong, bitter flavor. There may be some dishes or some methods of preparing radish leaves which would make them more palatable, but for the most part they lack a taste or flavor desired by most.

RADISH

General (cont.)

- Q. What are winter radishes and how do they differ from regular garden radishes?
- A. Winter radish varieties produce very large roots which may be round or elongated and white, red or black. They require a long season for full growth. The roots may be eaten raw with vinegar or cooked like turnips. The flavor of winter radishes is usually pungent and the texture more fibrous and less crisp as compared with common garden radishes. They can be left in the cool ground much of the winter as a means of storage.

Diseases

- Q. My radishes have a black, crusty growth around the radish globe.
- A. This is Scab and is a soil-borne disease. It can best be controlled by rotation within the garden to avoid planting in infected soil. Choose a soil low (5.5) in pH.

RHUBARB

- Q. Can rhubarb be successfully grown in Louisiana?
- A. Rhubarb is a very popular garden vegetable in northern areas of the United States but unfortunately will not do well in Louisiana. Rhubarb is a cold resistant perennial that thrives best where maximum daytime temperatures average no more than 90°F. Therefore, it will not grow well in most areas of Louisiana and will produce only thin leaf stalks which are spindly and of poor color even in the most northern areas.

SPINACH

General

- Q. Each year my spring planted spinach sends up a flower stalk about the time I think it is ready for harvest. What causes this and what can be done about it?
- A. Spring planted spinach has a tendency to hurry into its flowering phase which stops production of edible foliage. Flowering of spinach is affected by length of day, temperature and variety. Bolt resistant varieties, often called “long standing”, should especially be used in the spring. Planting should be done as soon as possible in the early spring and should cease 6 to 8 weeks before daytime temperatures are expected to average over 75°F. Bolting is usually not a problem in fall planting which should occur about 4 to 6 weeks before the first average frost occurs in the fall.
- Q. How do I keep my spinach growing vigorously rather than seeming to slow down?
- A. Spinach responds to liberal applications of a nitrogen fertilizer which encourages growth and production of leaves. Applications of ammonium sulfate should be applied as a side dress to high pH soils at the rate of 2 to 3 tablespoons per 10 feet of spinach row. Applications should be made when the plants are about 2 inches tall and again after the first harvest.
- Q. Should spinach be harvested by removing the outer, older leaves or by pulling up the entire plant?
- A. This probably depends upon whether or not it is a spring or fall planted crop. In the spring, spinach will go to seed relatively quick so perhaps the best method harvesting is by pulling up the entire plant. When planted in early fall for winter harvesting, maximum production will be maintained by harvesting the outer leaves when they are first mature and allowing the plant to continue to grow and produce additional foliage.

SPINACH

General (cont.)

- Q. I've heard that spinach is extremely high in minerals and vitamins but also contains high levels of something which can cause problems. Is there any truth to this?
- A. Spinach contains fairly high concentrations of oxalic acid which may interfere with the utilization of calcium or magnesium in the diet. The same is true for rhubarb and swiss chard. It is a fair source of protein, CA, F, Fe, K, vitamins A and B2.
- Q. Can New Zealand spinach be grown successfully in Louisiana?
- A. Yes. New Zealand spinach is a low growing, ground cover type plant which usually spreads to 3 to 5 feet across. It is similar to a bushy Amaranth and its flavor can be a little strong. New Zealand spinach should be started indoors in peat pots and set after all danger of frost in the spring. Young, tender stem tips and leaves can be harvested through the summer in most areas. It may reseed itself. Malabar spinach is a vining spinach substitute that may be preferred by some.
- Q. What is Malabar spinach?
- A. Malabar spinach, sometimes called summer spinach, is an attractive glossy leaved vine that grows rapidly during warm weather and generally produces edible leaves and shoots in about 70 to 80 days. Since it makes a vigorous vine, it should be trained against a fence or wall. Young leaves and growing tips can be harvested throughout the summer. Seed may be saved from the plant in the fall for replanting in the next garden. It is used fresh in salads or cooked as other greens. Both Malabar and New Zealand types are not a true spinach.

SPINACH

Diseases

- Q. My spinach foliage developed white, ruptured areas underneath the leaf and a faint yellow color on the upper side of the leaf.
- A. This is White Rust and is caused by a fungus that causes severe loss of foliage. It is favored by cool, moist weather and can be controlled with foliar sprays of Maneb type fungicide. There are resistant varieties that should be used. Try varieties Hybrid 7 and Dixie Market if this problem causes much trouble.
- Q. My spinach foliage has developed a bluish-gray material underneath the leaf. The leaves quickly dried up.
- A. This is Blue Mold of spinach caused by a fungus. It is controlled with foliar sprays. Melody hybrid and winter Bloomsdale have a tolerance to B.M.
- Q. White spots are developing on the upper side of the leaf which quickly fall out leaving the leaves with a very ragged appearance.
- A. This is either Cercospora Leaf Spot or Anthracnose. These two fungal diseases attack spinach causing the described symptoms. A good fungicide program involving Maneb type fungicide will control both of these fungi.
- Q. I planted my spinach this fall, yet the plants died soon after coming up.
- A. In most cases, the soil temperature is too high and plants are being killed. It is best to plant spinach when the soil temperature reaches no higher than 75°F during the daytime. This can be determined by simply placing a soil thermometer in the upper one inch of the soil and reading it at noontime to determine the soil temperature. Also, once the plants become established, it is important to maintain a moisture level around it by light sprinkling periodically. Damping off or root rot may also be possibilities.

SPINACH

Insects

- Q. Small, clear green or sometimes dark colored insects are a real problem on my spinach every year. How should I control them?
- A. Any small clear-bodied insects are more than likely aphids, often called plant lice by some gardeners. They are a problem to control in spinach because they get under the curled or crinkled leaf and are difficult to control unless spray applications are applied in large quantities of water with special attention to the underside of the leaves. Applications of a general purpose insecticide such as malathion begun early enough in the season generally gives adequate control. Aphids may also be washed off with a vigorous stream of water, but be sure to avoid damage to the plant.

SQUASH

General

- Q. Each year my squash blooms profusely but seldom produces any squash to eat. What is wrong?
- A. Squash plants produce both male and female blooms. For fruit set to occur, pollen must be transferred from the male to the female bloom. Pollinating insects (mostly bees) carry out this important job with the result being fresh squash for the kitchen. When treating the garden for insects and diseases, spray or dust during the late afternoon to avoid killing bees. Over fertility, starvation or extreme stress can limit the number of female blossoms. Long days may also change the sex expression of some squash.
- Q. Most of the time my yellow squash is tough or has seed in the middle. What is wrong?
- A. Squash is one of those crops which mature very rapidly requiring only 5-7 days from flowering to maturity in hot weather. The key to high quality is timely harvest, every other day in hot weather. Good yellow summer squash should be about 1-1/2 - 2 inches in diameter at the base and pale yellow in color. The tender skin should be easily nicked by the thumbnail. Squash which is dark yellow or yellow-orange with a firm rind is over mature. It should be removed from the plant and discarded. If over mature fruits are not removed, the plant will stop yielding.

SQUASH

General (cont.)

- Q. Will squash cross with other vine crops in my garden such as watermelons and cucumbers?
- A. Generally, no. Squash will cross pollinate with some other types of squash and pumpkin such as yellow squash with green squash, but they generally will not cross pollinate with cucumbers, watermelons, or cantaloupes. This cross pollination will not result in off-flavored or off-colored fruit from this year's garden, but if seed are saved for planting next year, the result will be a combination of the parents. For example, if yellow squash crosses with a zucchini squash and you save seed, when you plant it out the result will have the characteristics of both parents. —SEE CHART OF SUSURBITACEAE—
- Q. Can seed be saved from this year's squash crop for planting in next year's garden?
- A. Yes, but this is not a recommended practice. Due to the fact that squash has both male and female blooms and that bees are necessary for pollination, a very strong chance exists that seed saved from this year's crop will not breed true when planted next year. This is especially true if you are growing more than one type of squash. If you are only growing one type of squash and there are no other types of squash in the general area, then seed can be saved with a fairly high degree of genetic purity. If you are growing hybrid squash, seed should not be saved as hybrids will not breed true if saved and planted out.

SQUASH

Diseases

- Q. My squash vines are covered with a white, powdery substance on the leaves. The plants die rapidly.
- A. This Powdery Mildew. It is a fungal disease that attacks squash causing rapid death of the plants. There are some varieties that have some tolerance to this. However, in all cases, a fungicide application will be required if squash is to be free of this disease. Powdery Mildew is a major problem in the fall of the year and is less of a problem in the spring. The material Benomyl, or Benlate, is the most effective fungicide at this time for the control of Powdery Mildew.
- Q. My fruit blooms and sets young fruit, yet quickly become covered with a black, whiskery fungal growth.
- A. This is Chaonephora fruit rot. It is a soil-borne disease which causes rotting of the young fruit. It is particularly damaging during extended wet periods. It can be controlled with a combination of treatments using foliar sprays of Chorothalonil, raised beds, and open foliage varieties. This allows air movement within the plant to dry out the soil. Also, avoid planting squash on heavy, poorly drained soils. Fungicide applications should be applied during wet periods to insure control at this dangerous time.
- Q. My fruit, as it begins to develop, is covered with a white, moist appearing fungus.
- A. This is Phythium, commonly called wet rot. It is controlled by growing the plant on a raised bed, planning in a well drained area, and improving air circulation around the plants as much as possible so that the fruit does not come in contact with the wet soil. Some squash will tend to produce their fruit in the upper part of the plant which helps reduce some of the damage.

SQUASH

Insects

- Q. Each year my squash plants slowly wilt and die about the time they start producing. What could possibly be wrong?
- A. Although squash is attacked by various types of insects and diseases which can cause death of the plant, more than likely your problem is squash vine borers. If this is indeed the problem, the white, grub-like, larvae can be found within the stem of the plant by cutting it open. The larvae are the result of eggs laid by a bright colored wasp-like moth on the foliage or stems of the plant. The eggs hatch and the larvae travel down the plant to the stem near the ground level and bore inside. Once inside, they feed in the stem and literally "core it out." To prevent this problem control measures must begin about time the plants start to bloom by applying Sevin insecticide on the stem of the plant. Once the grubs are inside the stem of the squash plant it is almost impossible to control.
- Q. How do I keep squash bugs from literally destroying my plants?
- A. Squash bugs are very difficult to control especially if control measures begin when the insects have almost reached a mature stage. In order for control to be satisfactory, improved insecticides such as Sevin or Thiodan must be applied early in the season while the insects are small. Applications, whether using sprays or dusts, must be thorough and complete coverage provided. When utilizing these insecticides the materials must come in contact with the insect in order to be effective. Making certain the chemicals are applied to the base of the plant, underneath the foliage and in some cases underneath the stems of the plant itself will generally result in satisfactory control.

Diseases

- Q. Each year my yellow squash plants do a peculiar thing. Toward early to midsummer the plants which once produced yellow fruit start producing green or often times yellow and green fruit. This is generally accompanied by a twisting or mottling of the leaves. What could possibly be causing this problem?
- A. Your plants have been affected by the virus diseases, most often Squash Mosaic Virus or Cucumber Mosaic virus. This virus is transmitted to your plants by insects which have been feeding on other virus-infected squash plants or perhaps some wild host plant. Once the plant gets this problem nothing can be done. Best control measures include

insect control and planting varieties which will mature a crop early in the year. This problem is invariable more serious on late planted squash or summer planted squash than it is on the early spring planted crop.

SWEET POTATO

General

- Q. When should you bed out sweet potato roots for slip production?
- A. To produce slips, sweet potato roots should be laid on their sides in hotbeds during February, about a month before the nighttime temperatures can be depended upon to stay about 60°F. The soil should be at least 70°F. Cover the sweet potato roots with 2 inches of moist sand and keep the hotbed between 75° and 80°F. When the sprouts develop, they should always be removed by cutting them off 4 inches above the soil line to reduce the transfer of pests.
- Q. I want to grow a few rows of sweet potatoes in my garden? How do I get seed or plants?
- A. Sweet potatoes are started vegetatively from transplants or vine cuttings rather than from seeds. Transplants, which are also called slips, usually grow from bedded roots. A vine cutting is obtained by cutting off a 10- to 12-inch section of a vine growing in the field. Local home gardeners should be encouraged to purchase slips or transplants.
- Q. What causes sweet potato roots to be long and stringy rather than well shaped and of high quality?
- A. This condition is generally caused by high fertility conditions. The edible portion of the sweet potato plant is a true storage root. Luxurious growing conditions resulting in vigorous vine growth will result in inadequate size of the storage root causing the edible portion to be poorly developed and stringy. A late planting will also produce long roots which may be more stringy.
- Q. How do you know when sweet potatoes are mature and ready for harvesting?
- A. Sweet potatoes can be harvested at any stage of maturity. They generally require from 95 to 140 days from planting to maturity depending upon variety. Sweet potatoes should be harvested before the first killing frost as cool conditions can result in physiological damage to the roots. Most people will prefer a medium sized root for home use. Thus a spot check of one or two hills will tell if they are large enough.

SWEET POTATO

General (cont.)

- Q. How should sweet potatoes be handled after harvesting for long-term storage?
- A. Fresh dug sweet potato roots should be handled like eggs. The skins are tender and bruise extremely easy. Any damage to the roots may cause considerable decay when placed in storage. After harvesting, protect from frost. Let the sweet potatoes dry for 2 to 3 hours then spread them out in baskets lined with newspaper. Place them in a humid area where the temperature will remain about 85°F for 10 days to 2 weeks. After this curing period, place them in an area where the temperatures will range from 55 to 60°F with a relative humidity of about 85 percent. Potatoes treated in such a manner will store well for several months. Remove any roots that show signs of deterioration or decay.
- Q. Is there a real difference between sweet potatoes and those advertised as yams?
- A. Yes and no. In areas of the south some sweet potatoes are advertised as yams, for example, Louisiana Yams. However, they are all sweet potatoes with the scientific name of *Ipomea batatas*. The true yam which is consumed in tropical areas is a totally unrelated plant with the scientific name *Dioscorea batatas*. The true yam is also called a Chinese Yam or Chinese Potato. True yams are not grown in the continental United States as food crops. The word yam that is associated with a true sweet potato is used to designate a sweet potato grown in the deep south where the roots will be more moist of flesh than those grown farther north.

SWEET POTATO

Insects

- Q. How do I control sweet potato weevils?
- A. Utilization of certified weevil free “slips”, rotation and a good cleanup in the fall to remove all crop residue and weeds which might serve as winter hosts for the sweet potato weevil is the best current method of preventing weevil damage. Slips should always be harvested by cutting the vines 4 inches above the ground level and not by pulling. This greatly reduces insects and diseases that can be carried over with the slips. If chemical control is desired the seedbed can be dusted weekly with Thiodan. The seed potatoes can be dusted with 5% Imidan when stored to prevent weevil damage before budding.

Diseases

- Q. When I harvested my sweet potatoes, they were rough and the surface was cracked.
- A. This can be caused by two things. One is uneven moisture levels within the soil, and the other is root knot nematodes. If nematodes are suspected, check around the part of the root that was closest to the plant for small necrotic lesions in the potato itself. If nematodes are found, use the resistant variety Jewel in future plantings.
- Q. After I dug my sweet potatoes, I found that as much as one half of the potato will be covered with a black, necrotic scab which decays rapidly.
- A. This is Sweet Potato Scurf and is caused by a soil-borne fungus. It is best controlled by growing potatoes in acid soil. Also, the use of disease-free slips will help eliminate the disease. Crop rotation should also be followed.

SWISS CHARD

- Q. When should swiss chard be planted in my garden?
- A. Since swiss chard is a close relative of beets, plant them the same time you do beets. Generally seeds should be planted two to three weeks before the average last killing frost in the spring. Seed can be sown for harvesting through the winter and most of the following year. Swiss chard is unusual in that quite often a single planting can be harvested for well over a year or perhaps into the second year if the flower stalks are removed as they develop.
- Q. How should swiss chard be harvested?
- A. Swiss chard is grown for its tender, vitamin enriched leaves. The plants generally grow to be one to two feet tall and the crinkled leaves have prominent central ribs. These ribs may be cut away from the rest of the leaves and cooked and served as asparagus. The remainder of the leaf is eaten as greens. For harvesting, cut the leaves off at the base of the plant with a sharp knife. The undisturbed inner leaves should continue to grow and should be ready for picking in a few days. Pick off and discard any old leaves. If they remain on the plant, production will be lessened.
- Q. How is swiss chard used?
- A. Both the leaves and the central leaf ribs are consumed. The stalks may be cut into two to three inch lengths and simmered in boiling, salted water until tender. They are generally served with butter and a touch of wine and vinegar. The leaves should be chopped coarsely and cooked quickly in just the water that clings to the leaves. They are often prepared with butter and salt. A favorite recipe for swiss chard involves serving the cooked greens in a hot bacon and wine/vinegar dressing sprinkled with shredded hard boiled eggs.

TOMATO

General

- Q. When should I start my seed indoors in order to produce tomato transplants for setting out in my garden?
- A. Depending upon temperature and how the plants are grown, it generally takes from 5 to 8 weeks to produce a healthy, 6-inch tall transplant for setting out in your garden. Five weeks in June-July and 8 during January-February. Cooler temperatures will slow growth and summer grown plants may normally be a little thinner due to heat. The plants should be grown in a warm area that receives plenty of sunlight or tall, poor quality, thin plants will result.
- Q. When buying transplants at local nurseries or garden centers how do you select good ones?
- A. First of all, make sure you select the right variety of transplant that is adapted and tested for your area. Secondly, look for plants that appear healthy uniformly dark green in color, and do not have any streaks, spots or holes in the leaves. The ideal tomato pepper or eggplant transplant should be just about as wide as it is tall. Avoid tall, spindly plants if at all possible.
- Q. How often should be tomatoes be fertilized?
- A. It is absolutely necessary to fertilize the garden before planting tomatoes. The next fertilizer application should be made when fruit set first occurs. From that point on, an additional light fertilization every two to three weeks is generally recommended. Plants grown on sandy soils should be fertilized more frequently than those being grown on heavy, clay-type soils. A general fertilizer recommendation would be one to two level tablespoons of a complete fertilizer scattered around the plant and worked or watered in. If using a fertilizer high in nitrogen such as ammonium sulfate, reduce the rate to about one level tablespoon per plant. For fall tomatoes, side-dress applications of fertilizer should cease 6 to 8 weeks prior to the first anticipated fall frost in order to hasten maturity of the fruit.

TOMATO

General (cont.)

Q. Should tomato plants be staked, caged or left unsupported?

A. There is no doubt that tomatoes grown in Louisiana should be supported in some manner. Whether you cage or stake them is a matter of personal preference. Regardless of the method used, plants with foliage and fruit supported off the ground will out produce unsupported plants. Caging has several advantages. Caging involves much less work than staking. Once the cage is placed over the plant there is no further manipulation of the plant – no pruning, no tying. The fruits are simply harvested as they ripen. In many areas, staking and pruning of the plant to a single or multiple stem results in sunburn when the developing fruit is exposed to excessive sunlight. Other advantages of caging over staking include protection of fruit from bird damage by more vigorous foliage cover and less fruit rot. Staked plants should be allowed to bush out just before the extreme heat comes.

Q. My tomato plants look great. They are dark green, vigorous and healthy. However, flowers are not forming any fruit. What is the problem?

A. Several conditions can cause tomatoes to fail to set fruit. Too much nitrogen fertilizer, high nighttime temperatures (over 70°F), low temperatures (below 50°F), irregular watering, insects such as thrips, and planting the wrong variety may result in poor fruit set. Any one of these by itself can cause poor fruit set and/or distorted fruit, but combinations can be even more damaging.

Q. Are there really low acid tomato varieties?

A. There are some varieties that are “slightly” less acidic than others, but for the most part this difference is so slight that no real difference occurs in taste or in how the tomatoes should be processed. Some of the yellow fruited types are slightly less acidic than the normal red varieties, but not enough to make any difference. Research conducted by the USDA has indicated that all the varieties currently available to the home gardeners are safe for water bath processing and the tangy quality of the fruit due to differences in acid content, but rather differences in sugar content.

TOMATO

General (cont.)

- Q. What does determinate mean and can you tell if a tomato is determinate by looking at it?
- A. "Determinate" means that the plant will be short. Spring Giant and Bigset seldom are more than 5 to 6 feet tall. A determinate vine is distinguished by two leaves, a flower or fruiting cluster, two leaves, then a cluster, etc. As indeterminate vine has three or four leaves, then a cluster, three or four leaves, then a cluster, etc. A determinate vine grows and then loads up with fruit. The fruit ripening is more concentrated and the plant can only be grown for one season, i.e. Spring or Fall.
- Q. Can I save seeds from my tomatoes from next seasons planting, and if so how is it done?
- A. You can save seed from tomatoes if the variety is not a hybrid. Hybrid tomatoes such as Bigset and Spring Giant normally do not come true from saved seed. The plants and fruit from seed saved from your home garden probably won't resemble the parent. Chances are that the fruit will be poorer quality and the vine characteristics will not be the same as the parent plant. However, for open pollinated varieties, such as Floradel, it is possible and easy to save seed. To save seed from tomatoes or any other home vegetable fruit type crops, leave the fruit on the plant until it is fully mature, pull the fruit and extract the seeds by crushing the pulp into a bucket of tepid water. Let this mixture ferment for 2 or 3 days. It is necessary to rinse the seeds two or three times to remove a germination inhibitor present in the fruit. After rinsing the seeds blot them dry and place them in the sun to dry. Store the seeds under cool, dry conditions.
- Q. When caging tomatoes, how large should the cage be?
- A. Experience has shown that the diameter of the cage should be at least 18 to 20 inches. Smaller cages often restrict plant growth and reduce yields. Height of the cage will vary but generally 2-1/2 feet is sufficient for most of the currently recommended varieties. However, if vining types are utilized, such as Better Boy, Homestead, Terrific, etc., then a cage 5 feet in diameter is preferred. Regardless of variety, the 2-1/2 foot tall cage is sufficient for most fall garden tomatoes. BE SURE CAGE WIRE HOLES ARE LARGE ENOUGH TO REACH THROUGH!

TOMATO

General (cont.)

- Q. How do you go about staking tomatoes?
- A. Staking involves “pruning” or “suckering” the plant to either one or two main stalks. Tomatoes grown without support generally develop a sprawling bush shape. However, if the plant is to be trellised or staked, it must be pruned to a single or in some cases double stalk. The small suckers which develop between the axil of the leaf and the stem are removed in order to encourage the plant to develop a vine structure rather than a bush. A wooden stake generally an inch or so in diameter and six feet in length is driven into the ground beside the plant. Care should be taken not to damage the root system when inserting the stake in the ground. Therefore, do this shortly after transplanting. Position the stake on the opposite side of the flower cluster. The stalk of the plant is loosely attached to the stake as it grows. Attaching the plant to the stake can be done with twisties, soft string or in some cases strips of cloth. Sufficient support is generally provided if the plant is attached to the stake at 12- to 14-inch intervals. Suckering should be continued as the plant grows to prevent it from developing more than one or two central stems.
- Q. What causes a tomato to crack and is there anything I can do to prevent it?
- A. Cracking is a physiological disorder caused by soil moisture fluctuations. When the tomato reaches the mature green stage and the water supply to the plant is reduced or cut off, the tomato will begin to ripen. At this time, a cellophane-like wrapper around the outer surface of the tomato becomes thicker and more rigid in order to protect the tomato during and after harvest. If the water supply is restored after the ripening process begins, the plant will resume translocation of nutrients and moisture into the fruit. This will cause the fruit to enlarge, which in turn splits the wrapper around the fruit and results in cracking.

The single best control for cracking is to assure that the water supply is constant and regular. It is helpful to apply a layer of mulch at the base of the plant. This serves as a buffer and helps prevent soil moisture fluctuation. Water your plants thoroughly every week. This is especially important when the fruits are maturing. Some varieties are resistant to cracking, but unfortunately their yield and quality are generally less than other varieties.

TOMATO

General (cont.)

- Q. What could be causing the leaves of my tomatoes to turn brown along the edges?
- A. Leaf-burn or scorch generally indicates some form of root injury, quite often in many home gardens caused by heavy amounts of fertilizer applied too near the roots of the plant. This injury often results in browning and die-back of the ends and margins of the leaves. Other possible causes of root injury due to herbicides, nematodes, insects or physical injury of roots by cultivation. Also overwatering or underwatering along with various types of diseases might cause leaf-tip burn as well as a potassium deficiency.
- Q. About the time my tomatoes start to ripen and turn red, I lose at least half my crop due to bird damage. What can be done to prevent this problem?
- A. Bird damage is common in all areas of Louisiana and gardeners will try almost anything to reduce or eliminate the problem. Scarecrows, aluminum strips, tin foil plates, and various types of noisemakers will work for a while until the local birds become accustomed to seeing these objects or hearing the various types of noises. One method which works quite well is to take old nylon stockings and cut them into pieces 10 to 12 inches long. Tie a knot in one end of the stocking and slip the open end over the entire cluster of tomatoes. Secure the end above the tomato luster with a rubber band or twistie. Birds will not be able to peck through the nylon stocking and your ripening tomatoes will be protected. Slip the stocking off the cluster and harvest the ripe fruit and replace it to protect later ripening fruit. Encourage bushiness of your plant to help hide the fruit.

TOMATO

General (cont.)

Q. What causes tomato leaves to curl?

A. Leaf curl or especially distorted leaf shape quite often may be related to virus infection or sometimes chemical spray injury. However, in most cases this is not the case. The exact cause of this “tomato leafroll” is not fully known. Tomato leafroll generally starts to show up about the time of fruit setting. The tomato plants begin to show an upward rolling of the leaflets of the older leaves on the lower half of the plant. This gives the leaflets a cupped appearance with sometimes even the margins touching or overlapping. The overall growth of the plant does not seem to be greatly affected and, in general, yields are about normal. This condition appears to be more common on staked and pruned plants than on those that are not. It seems to be common when excessive rainfall or overwatering keeps the soil too wet for too long a period. It also seems to be related to intensive sunlight which causes an accumulation of carbohydrates in the leaves. Some varieties of tomatoes, such as the TAMU Saladette and Monte Grande are characteristically curled due to genetic causes.

Q. What causes some of my early tomato fruit from the spring garden to be oddly shaped and generally of poor quality?

A. This condition is usually caused by low temperatures during bloom and pollination. Fruit that sets when temperatures are 55°F or below often are odd-shaped and of poor quality. The blooms that these tomatoes develop from often were abnormal due to these temperature conditions which result in abnormal, odd-shaped fruit with very little seed.

Q. Do products which aid in tomatoes setting such as “Tomato Set” really work and if they do, how should they be used?

A. These products are hormonal in nature and designed to take the place of natural pollination. Unfortunately, they do not work as well as the manufacturers describe. Tomato set will actually work better when tomatoes are failing to set because of too cool temperatures rather than because temperatures are too high. Most of the problems we have in Louisiana with regard to poor fruit set in tomatoes is due to high temperatures rather than low temperatures. Also, whatever tomatoes set due to the

use of these products are generally puffy and seedless resulting in unsatisfactory, poor quality fruit.

TOMATO

General (cont.)

- Q. What is the plant sold in many garden books and advertised as a “tree tomato?”
- A. The plant currently being advertised as a “tree tomato” is a member of the Nightshade family. The regular tomato also belongs to the same plant family but is a different species. The tree tomato has the scientific name Cyphomandra crassifolia. Like the true tomato, it is a native of Peru. It is commonly grown in market gardens in that country and in several subtropical countries including Brazil and New Zealand. The tree tomato is woody, grows from 8 to 10 feet tall and does not bear fruit until 2 years after seeding and may continue to bear for 5 to 6 years. They are not winter hardy except in coastal Louisiana and would need to be taken inside over winter. Fruits of the tree tomato are oval in shape, about 2 inches long and change from greenish purple to reddish purple when fully ripe. The fruits are low in acid, and the flavor is moderately agreeable. Some varieties of the tomato produce bright, red fruits. The fruits may be used in stew or preserves after the tough skin and hard seeds are removed.
- Q. Should you allow tomatoes to become fully ripe and red on the vine before harvesting?
- A. Generally, yields will be increased by harvesting the fruit at first blush of pink rather than leaving them on the plant to fully ripen. Contrary to popular belief, a tomato picked at first sign of color and ripened at room temperature will be just as tasty as those left to fully mature on the vine. Another advantage of picking tomatoes before they turn full red is that damage from birds, insects, and fruit cracking will be lessened.
- Q. If tomatoes are picked green or before they are fully mature, how should they be handled to insure proper ripening and full flavor?
- A. Tomatoes picked immature should never be refrigerated. They should be placed in a single layer and exposed to indirect sunlight at room temperature. When they are fully ripe, they should be placed in the refrigerator where they will store for several weeks. Those handled in this manner will be of quality and full flavor.

TOMATO

General (cont.)

Q. What is a husk tomato?

A. Husk tomato is also called Ground Cherry, Poha Berry or Strawberry Tomato. It is grown the same way as tomatoes and produces a fruit about the size of a cherry tomato. The fruits are produced inside a paper-like husk which when ripe, turns brown, and the fruit drops from the plant. If left in the husk, it will keep for several weeks. Like the tomato, they are sensitive to cold weather and should be set out from plants after all danger of frost in the spring. Space the plants about 1-1/2 feet apart in rows at least 3 feet apart. When ripe the small fruit can be used in pies, jams or may be dried in sugar and used like raisins.

Q. I have the best tomato crop I have ever had, but the large tomatoes are falling off. Even the ones that stay on the vine are jarred off easily. What is the problem?

A. Cool fall temperatures cause the abscission zone (where the tomato is attached to the plant) to weaken, and the heavy fruit subsequently falls off. Gather fallen tomatoes as soon as possible, wipe clean and store in a warm place so ripening will occur. Those aborted tomatoes will rot if left on the ground.

Q. I have large translucent areas on my tomato fruit. What's going on? Is this a variety flaw?

A. Your problem is not a varietal origin; it is an environmental problem. The translucent areas are sun scalds. Heat destroys the color pigments of the tomato when exposed to direct, intense sunlight. This damage does not make the tomato inedible. Damage should show on the outside shoulder where the sun strikes the fruit.

Q. What about propagating tomatoes for the fall garden from existing vines?

A. If necessary, use suckers or layering (cover with soil until roots appear) of existing vine. Do this several weeks before the recommended transplanting date for fall tomatoes, and be sure to use early tomato varieties that are presently free from virus.

TOMATO

General (cont.)

- Q. Can spring planted tomatoes be cut back in late summer or early fall resulting in renewed growth and increased production until the first killing frost?
- A. This can be done in some areas of Louisiana, especially in the central and southern parts of the State. However, make certain that the plants are of an indeterminate variety, healthy and free of disease problems. Trying to carry an unhealthy plant through the summer into the fall usually means disaster. If the plants are to be cut back, avoid removing too much of the foliage as hot weather conditions can result in the plant literally burning to death. After the pruning operation additional fertilizer and water should be applied to encourage renewed growth and hopefully increase tomato production well into the fall.
- Q. How do you tell when a green tomato harvested early to prevent freeze damage will ever turn red and ripen?
- A. This can simply be done by utilizing a sharp kitchen knife. Harvest a tomato that is typical for the majority of green tomatoes on your plants. Look at size but pay particular attention to fruit color. Take a sharp kitchen knife and slice through the tomato at its center. Closely examine the seed within the fruit. If the seed is mature enough and consequently hard enough to move out of the way of the sharp knife, then given sufficient time that fruit will eventually turn red and ripen. If the seed are cut by the sharp knife than those fruit will never properly ripen. Compare the color and size of the tested fruit when harvesting those on your plants. The majority of those fruit which are of similar color and size will eventually ripen and turn red. If the fruit's blossom end shows a whitish star radiating from its center point, then it should be 'mature green.'

TOMATO

Diseases

- Q. My tomato foliage is infected by irregularly shaped spots which cause the foliage to turn yellow and defoliate. It has occurred in all seasons and is found on both the top and bottom leaves.
- A. There are a number of leaf spots that will attack tomatoes. Septoria Leaf Spot and Early Blight are seen quite often in Louisiana. They can be controlled with a Maneb plus Zinc spray program. It is important that you begin the spray program early in the life of the plant to insure complete protection.
- Q. My tomato plants appear as if a hormone type herbicide has been sprayed around them, causing the leaves to become distorted.
- A. This is a virus and is called Tobacco Mosaic Virus. If the virus is extremely severe, the plants should be removed to prevent further spread to other plants. While working around the infected plants, the virus can be spread to nearby healthy plants. Many of the viruses are insect transmitted, so it is important that you carry out a good insect control (esp. thrips) program on tomatoes
- Q. My tomato plants are stunted and have a pale yellow foliage. The root system has knots or swellings on the roots.
- A. This is root knot nematodes. The use of resistant varieties such as Terrific, Pelican Bigset, Bonus, Better Boy, and Small Fry will help eliminate this problem. If other varieties are to be grown that are not nematode resistant, then soil fumigation with Vapam is required. It is best to use only nematode resistant varieties. Nematode resistance is indicated by the letter N after the name. Example: Terrific VFN.

TOMATO

Disease (cont.)

- Q. My tomatoes were healthy during the spring and early summer, yet after a recent rain, they wilted and died very rapidly. I found a white fungal growth at the base of the plant.
- A. This is Southern Blight. It is a soil-borne fungus and lives on organic material in the soil. The use of Terraclor as a preplant treatment will help reduce this problem. Also, the deep burial of undecomposed organic material in the soil will help reduce the problem. It is important that you control foliage diseases on tomato plants as the falling leaves around the base of the plant will act as a source of food for the fungus, and it will build up in this area and cause damage later. Crop rotation will also help eliminate this problem to some extent.
- Q. My tomato plants wilted rapidly. On examination I found no galls or white mycelia matter around the base of it, but when I cut the stem open, I found that the stem had a brown ring around the inside.
- A. This is Fusarium Wilt. It is a soil-borne fungus that attacks tomatoes and other crops. It is controlled only through the use of resistant varieties. Most commercial tomato varieties now have resistance to this. It is important, however, that before you plant a variety, you make sure that it is resistant to Fusarium Wilt. This resistance is denoted by the letter F after the name. Example: Terrific VFN.
- Q. What do the letters "VFN" often found associated with particular tomato varieties indicate?
- A. These letters should be very important to gardeners in all areas of the state. VFN indicates that this particular tomato variety is resistant to three types of diseases; Verticillium wilt, Fusarium wilt, and nematodes. Many of the new hybrid varieties are VFN types. Varieties possessing this type of disease resistance are preferred in many areas of Louisiana where many of these problems are severe and cause great losses to home gardeners. F and N resistance are considered most important here.

TOMATO

Diseases (cont.)

- Q. The lower foliage on my tomatoes is beginning to turn yellow and drop. The leaves have circular, dark brown to black spots.
- A. This is Alternaria Leaf Spot. It is a common problem on tomatoes and causes defoliation, generally during periods of high rainfall. Tomatoes should be planted on a raised bed to improve water drainage. They should be grown with enough space between them so that air movement can occur and thus dry the foliage out and help prevent diseases. Follow a spray program using Maneb, Captan, or Chlorothalonil beginning when the fruit is set and continuing at 1- to 2-week intervals during the growing season.

Insects

- Q. My tomato fruit have small yellow specks on their surface. When peeled, those yellow specks form a tough spot which must be cut off before eating the tomatoes. What's wrong?
- A. Your problem is not of a varietal origin. The yellow speckling which you are seeing is caused by the sucking of stinkbugs. Early control of sucking insects which feed on the fruit is necessary if this problem is to be avoided. Use Sevin or Thiodan.
- Q. We planted tomatoes in our small garden. They are loaded and are the best tomatoes we have ever had; however, there are some small holes near the stem end of the tomato. When we cut the tomato open, there is a small worm inside. What is it and what can we do?
- A. You have been invaded by the Tomato Pinworm. They usually do not damage the fruit until the infestation is quite severe. They normally show up on the leaves first. They can be controlled only by a preventive insecticide spray every 7 to 10 days. When the damage is evident, it is too late to do anything about it.

TURNIP

General

- Q. What Causes turnips to fail to make large roots?
- A. Like radishes and other bulbing crops, if left too crowded turnips will fail to enlarge. Turnips also require a moderately fertile soil and adequate moisture in order to make large, fleshy roots. For good size bulbs, turnips should be spaced 2 to 3 inches apart. Planting should occur as soon as the ground can be worked in the spring. For a fall crop, planting should begin when daytime temperatures average below 80°F. In many areas of Louisiana, planting can begin in early fall and continue until about 5 to 6 weeks before maximum daytime temperatures average 80°F.
- Q. Are there varieties of turnips grown just for the tops and not their enlarged roots?
- A. Yes. The varieties Sevin Top and Shogoin are grown primarily for their tops and usually fail to make large, high-quality roots.
- Q. What causes my turnip greens to often have a bitter and pungent flavor?
- A. Conditions which result in slow growth or stress of the turnip plant will often cause the leaves to have a bitter, off-flavor. This condition is most prevalent when turnip leaves mature under relatively high temperatures in combination with unfavorable growing conditions.

TURNIP

Diseases

- Q. My plants appear to be stunted, and after examining the roots, I found small, round galls.
- A. This is root knot nematodes. They are controlled by rotation, summer fallowing, and chemical treatment with Vapam.
- Q. I recently harvested my turnips and found the root to be black in the center.
- A. This most often is the result of Boron deficiency. To be sure of the exact problem, a soil sample should be sent to the Soil Testing Laboratory at LSU.

Note: Refer to MUSTARD for other diseases which are associated with turnips.

Insects

- Q. How do you control aphids or plant lice on turnips?
- A. Aphids can sometimes be a real problem, but generally can be easily controlled if applications of an insecticide such as Malathion are begun early. Applications should begin the first time the insects are observed and applications made periodically to maintain satisfactory control.

WATERMELON

General

- Q. Is it true that watermelons readily cross with other vine crops which often results in off-flavor and poor quality fruit?
- A. Watermelon varieties readily cross with each other and with the wild citron, but crossing will not be apparent unless seed are saved to plant another year. Watermelons will not cross with cantaloupes, cucumbers, pumpkins, squash or cushaws. Off-flavor or odd-shaped fruit is generally due to growing conditions and not to cross pollination.
- Q. What determines the sweet flavor of watermelons?
- A. There are differences in sugar content from one variety of watermelon to another. Some of the sweeter varieties include Crimson Sweet, Dixilee, La. Queen, and the old variety, Black Diamond (if harvested at the proper stage of maturity. Excessive moisture due to late irrigations or untimely rainfall near maturity of the watermelon will also result in poor flavor.
- Q. How can you tell when a watermelon is ripe?
- A. Determining ripeness in watermelons is somewhat difficult. The area touching the soil or the belly of the fruit turns from a light pale green color to an egg shell cream color as the fruit ripens. Thumping is also used to check ripeness, but the results will vary. Generally, a solid dull sound indicates ripeness while a sharp echoing sound indicates a greener fruit. The dark green fruits, such as Black Diamond, will also develop a dull fruit color as compared to an immature melon. The “tail” or “tendrils” which are located on the vine connecting the fruit to the plant will also dry as the melons mature. If the tendril closest to the fruit is dry and brown, chances are the fruit is mature.
- Q. What causes watermelon plants to fail to set fruit?
- A. Poor fruit set in watermelons is generally due to poor pollination. The watermelon plant produces both male and female blooms and bees are necessary to transfer the pollen from the male to female bloom. Common causes resulting in poor fruit set

include lack of bees for pollinating or cool, wet weather during bloom which slows bee activity.

WATERMELON

General (cont.)

- Q. What causes the end of the watermelon fruit to become black and rot?
- A. Watermelon fruit are affected is affected by “Blossom End Rot” just as are tomato fruit. This condition in watermelons is directly related to available moisture and temperature. In general, these conditions occur on watermelon fruit if the plant goes through an unusually dry period resulting in excessive moisture loss from the plant. Ability of the plant’s roots to keep up with water loss by the plant results in desiccation and blackening of the blossom and end of the fruit. The condition can be prevented by maintaining adequate moisture conditions to the plants, especially as the fruit matures. Be sure that low calcium and high salts are not contributing to this problem.
- Q. Are there really seedless varieties of watermelons?
- A. Yes. There are several hybrid varieties of watermelons which produce seedless or nearly seedless fruit. A common variety is Tri-X 313. Since the seed of this variety is relatively weak, they should be started indoors in a warm area. When setting the plants out in the garden, make sure that you also plant a few seed of a standard variety as they are necessary to provide pollen for fruit set to occur. The standard recommended varieties will, however, produce a much better product.

WATERMELON

Diseases

- Q. As my watermelons begin to set fruit, the leaves around the crown of the plant develop necrotic lesions and die rapidly.
- A. There are a number of foliage diseases that will attack watermelons causing this type of condition to occur. The one most often observed is downy mildew. Alternaria and Anthracnose also occur, causing similar type lesions. The control for all of these would be the same using Chlorothalonil, Benlate, or Maneb plus Zinc type fungicide. Applications should begin at the first sign of the disease and continue at 7 to 14-day intervals as long as weather conditions are favorable for continued disease development.
- Q. As my watermelon plants began to run, the stem near the crown cracks with an amber colored exudate formed. Soon after this the plants died.
- A. This is Gummy Stem Blight. It is a soil-borne fungus of watermelons and other vine crops such as cantaloupes and cucumbers. It is controlled with Benlate, Maneb plus Zinc, or Chlorothalonil applied at the time the runners begin to form. It is extremely important that the crown of the plant be sprayed very carefully to insure maximum coverage. Also, crop rotation will help eliminate some of the problem.
- Q. My watermelon plants grew very vigorously. There seemed to be a slight twisting at the stem end, and also the leaves were distorted and had the appearance of herbicide damage. Fruit was either not formed or was distorted on the infected plants.
- A. This is Watermelon Mosaic. It is aphid transmitted and can be controlled with insecticides. The virus can be prevented by spraying the plants with Malathion on a regular basis for aphids. Once the plant becomes infected with the virus, there is no control. Early planting will help eliminate some of this problem.

WATERMELON

Diseases (cont.)

- Q. My watermelons were growing and doing well when all of a sudden they began to wilt, and death occurred soon after. On examining the stems, I found that they have a tan ring around the vascular system.
- A. This is Fusarium Wilt of watermelon. It is a soil-borne disease. There is no chemical control for it. The use of resistant varieties such as Crimson Sweet, Calhoun Gray, La. Queen, Charleston Gray and Jubilee will help eliminate this problem. There are other wilt resistant varieties, but seed catalogs should be consulted before varieties other than those mentioned are planted.