FRUIT

Fertilize Strawberries

An August application of nitrogen on spring-bearing strawberries is important in order to increase the number of strawberries produced next spring. Plenty of daylight and warm temperatures during June, July and August promotes the growth of new runner, or daughter, plants. As daylight hours dwindle and temperatures grow cooler in September and October, fruit buds for the next year's fruit crop develop. To get a good berry crop next spring, it is important for strawberry plants to be vigorous during this period of fruit bud development.

Nitrogen, applied mid August, will help promote fruit bud development. A general application rate is $\frac{1}{2}$ to $\frac{3}{4}$ pound of actual nitrogen per 100 feet of row. The nitrogen may be in the form of a fertilizer mixture such as ammonium phosphate or 12-12-12, or in a fertilizer containing only nitrogen such as urea or ammonium nitrate. Some specific examples would include:

- Iron + (11-0-0) at 6 pounds per 100 feet of row.
- 12-12-12 at 5.5 pounds per 100 feet of row.
- Nitrate of Soda (16-0-0) at 4 pounds per 100 feet of row
- Ammonium sulfate (21-0-0) at 3 pounds per 100 feet of row
- Urea (46-0-0) at 1.5 pounds per 100 feet of row

On sandy soils, the rate may be increased by about a half. After spreading the fertilizer, sprinkle the area applying at least a half-inch of water to move the nitrogen into the strawberry root areas. (Ward Upham)
Harvesting Winter Squash

Summer squash such as zucchini and scallop are harvested while immature but winter squash such as acorn, hubbard and butternut are harvested later, in the mature stage, after the rind is tough and seeds have developed. We normally think September is the time that winter squash are harvested.

There are two main characteristics that help tell us when winter squash are mature: color and rind toughness.

Winter squash change color as they become mature. Butternut changes from light beige to deep tan. Acorn is a deep green color but has a ground spot that changes from yellow to orange when ripe. Gray or orange is the mature color for hubbard.

Hard, tough rinds is another characteristic of mature winter squash. This is easily checked by trying to puncture the rind with your thumbnail or fingernail. If it easily penetrates the skin, the squash is not yet mature and will lose water through the skin -- causing the fruit to dry and shrivel. Also, immature fruit will be of low quality. The stem should also be dry enough that excessive water doesn’t drip from the stem.

Winter squash should be stored cool with elevated humidity. Ideal conditions would be 55 to 60 degrees F and 50 to 70 percent relative humidity. Under such conditions, acorn squash will usually last about 5 to 8 weeks, butternuts 2 to 3 months and hubbards 5 to 6 months. (Ward Upham)

FLOWERS

Dividing Peonies

Peonies are a favorite perennial of gardeners because of their beauty and low maintenance. In Kansas, peonies provide a beautiful display of flowers each spring before Memorial Day. Though peonies can be left in place indefinitely, many gardeners wish to increase their plantings and use a process known as division to accomplish this. Keep in mind, however, that peonies often take about three years to return to full bloom and size after division.

Fall is the traditional time to divide these plants. The first step in division is to remove the foliage. Peonies are essentially dormant by September 1 even though the foliage is still green. Then dig out the entire plant. Shake and wash off as much soil as possible so that the pink buds
or "eyes" are visible. Peony roots are tough, and a sharp knife is needed to cut the roots into separate pieces. Make sure each division has three to four buds. Make sure the location chosen for planting receives at least a half-day of full sun. However, the more sun, the better. Space the plants so that there is at least 2 feet between dwarf types and 4 feet between the standard types.

Follow the same rules for planting these divisions as you do for new plants. Make sure the pink buds are about 1 inch below the soil surface. If they are set more than 2 inches deep, flowering may be delayed or completely prevented. As you set the plants, firm soil often as it is added around the plant. If the soil is not firmed, it can settle and pull the plant down with it. Water in well after planting and water as necessary through the fall and winter to keep the soil moist.

It is often a good idea to add mulch to the new planting to protect it from heaving. The alternate freezing and thawing that commonly occurs during Kansas winters can "heave" weakly rooted plants out of the ground. Add a mulch of straw, leaves, compost or other material after the soil freezes. Remember, it is not the cold that harms these plants but the alternate freezing and thawing of the soil. (Ward Upham)

**Peonies May Be Cut Back Now**

[Image of peonies]

Peonies often look a little bedraggled by this time of year and gardeners may want to cut them back. That will not be a problem with this perennial. Peonies are essentially dormant by September 1 even though leaves may still be green. Cut leaves off close to the ground and compost or discard. (Ward Upham)

**Impatiens Downy Mildew**

[Image of impatiens]

Impatiens downy mildew has been confirmed in the Kansas City and Wichita areas. New Guinea impatiens are not affected by this disease but most others are including the standard bedding impatiens, double-flowered impatiens and mini-impatiens. Balsam impatiens are less susceptible and usually only exhibit a yellow leaf spot. This downy mildew is only active on impatiens and will not affect other garden plants such as roses. There is a downy mildew that does affect roses but it is not this disease.

The first symptom of Impatiens Downy Mildew is leaf yellowing followed by what appears to be
a wilting effect. Plants infected while young will be stunted. Humid conditions will allow a white coating to appear on the underside of some leaves which is caused by the spores of the fungus. This symptom is diagnostic for this disease.

Infection can be passed by water splashing from nearby infect plants or by spores that have overwintered in the soil. Infected plants will not recover. Fungicides will not reliably protect healthy plants that are near those that are diseased. Once present, this disease will remain indefinitely as the spores remain in the soil.

Prevention is key as an infected area should not be replanted to impatiens as the spores will remain indefinitely. Impatiens downy mildew is encouraged by wet leaf surfaces (several hours), shade and crowded plants. Avoid overhead watering especially at night where leaves are likely to remain wet for long periods. Infected plants should be removed immediately. If the disease is confirmed, substitute other bedding plants for impatiens.

A fact sheet is available on this disease at http://www.hfrv.ksu.edu/doc3846.ashx. (Ward Upham)

**PESTS**

**Harlequin Bug**

The harlequin bug (Murgantia histrionica) is a very beautiful insect with its black and orange coloration; however, it is a very destructive pest to vegetable crops. In fact, both adults and nymphs are out “in full force” in vegetable gardens. Harlequin bugs are 1/2 to 5/8 inches in length, and are shield-shaped since they are a type of stink bug. They feed primarily on cole crops such as broccoli, brussel sprouts, cabbage, cauliflower, and kohlrabi. Additional plant hosts in which harlequin bugs will feed upon if cole crops are not available include asparagus, bean eggplant, okra, radish, potato, and tomato.

Adults emerge in early summer and may feed on weeds such as wild mustard. After finding a suitable host plant, adult females lay eggs on the undersides of leaves. The eggs appear as uniform rows of tiny white barrels with distinctive black hoops. Each female can lay 30 clusters (containing approximately 12 eggs) of 300 to 500 eggs. Nymphs emerge from eggs and feed in the same general vicinity where the eggs were laid. Nymphs take 5 to 6 weeks to develop into
adults with 5 to 6 nymphal instars. Nymphs resemble adults but are smaller and more rounded in shape. In addition, they lack wing covers. Both adults and nymphs have piercing-sucking mouthparts that are used to remove plant fluids. Harlequin bug feeding causes plant stunting and leaf distortion, and yellow to brown spotting on leaves. They can cause plant death depending on the severity of the infestation and plant size. Adults or nymphs feeding on fruit may cause scarring or “catfacing.” Harlequin bug overwinters as an adult in plant debris. There may be several generations per year.

Harlequin bug populations can be regulated by handpicking adults and nymphs, and then placing them into a container filled with soapy water. You may want to use gloves as harlequin bugs will emit a foul odor upon being handled. In addition, weed management in and around the garden will reduce the potential for alternative hosts and overwintering sites. It has also been recommended to trap harlequin bugs by placing “old” turnip or cabbage leaves on the ground. Harlequin bugs will congregate underneath the leaves. The next day, the leaves can be destroyed along with the harlequin bugs. Insecticides can be used to deal with harlequin bug populations; however, the nymphs are more susceptible than the adults. There are a variety of insecticides commercially available that may be used to regulate harlequin bug populations including pyrethrins, carbaryl (Sevin), and potassium salts of fatty acids (insecticidal soap). Be sure to read the label of any insecticide to ensure it is legal to use on a specific crop and that “bugs” are on the label. In order to enhance the effectiveness of the insecticide application it is essential to target the nymphs and make repeat applications, and thoroughly cover all plant parts in order to kill as many harlequin bugs as possible before they damage plants. (Raymond Cloyd)

MISCELLANEOUS

Pokeweed

A number of people have asked the name of the weed with the large leaves and purple-black berries that hang in a cluster. This perennial is known as pokeweed. All parts of this plant are poisonous, especially the roots. Signs of poisoning include abdominal cramps, diarrhea, vomiting, weakness, drowsiness and difficulty in breathing. One of the toxins found in pokeweed is the protein lectin, which can cause abnormalities in white blood cells.

Surprisingly, young leafy springtime shoots are sometimes eaten after thorough cooking. Though cooking eliminates most of the toxins, there is still a danger of being poisoned from handling and preparing the shoots as well as ingesting improperly cooked plants.

Berries can be attractive to children. Cut down and discard pokeweed that might come into contact with kids. This plant is a perennial. You may want to spray it with a herbicide next year before it is large enough to be attractive to children. (Ward Upham)

Contributors: Raymond Cloyd, Entomologist; Ward Upham, Extension Associate
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