D's Notes

Time to Plant Potatoes Approaching

St. Patrick's Day is just around the corner, so it is time to get seed potatoes in the ground. Actually any time from mid- to late-March is fine for potato planting. Be sure to buy seed potatoes rather than using those bought for cooking. Seed potatoes are certified disease free and have plenty of starch to sprout as quickly as soil temperatures allow. Most seed potatoes can be cut into four pieces, though large potatoes may yield more, and small less.

Each seed piece should be between 1.5 and 2 ounces and include at least one eye to ensure there is enough energy for germination. Each pound of potatoes should yield 8 to10 seed pieces. Cut the seed 2 to 3 days before planting so freshly cut surfaces have a chance to suberize, or toughen, and form a protective coating. Storing seed in a warm location during suberization will speed the process. Plant each seed piece about 1 to 2 inches deep and 8 to 12 inches apart in rows. Though it is important to plant potatoes in March, emergence is slow. It is often mid- to late-April before new plants poke their way through the soil. As the potatoes grow, pull soil up to the base of the plants. New potatoes are borne above the planted seed piece, and it is important to keep sunlight from hitting the new potatoes. Exposed potatoes will turn green and produce a poisonous substance called solanine. Keeping the potatoes covered will prevent this. (Ward Upham)

Rhubarb

Rhubarb is a perennial vegetable that can be a bit tricky to grow in Kansas. It is native to northern Asia (possibly Siberia) and so is adapted to cold winters and dry summers. However, it is susceptible to crown rot and should not be subjected to "wet feet" and therefore should be grown in a well-drained soil. The addition of organic matter can increase drainage as well as raise the soil level so that crown rot is less likely. Also, have a soil test done as rhubarb does best with a pH below 7.0.

Rhubarb should be planted from mid-March to early April in Kansas. Mix 5 to 10 pounds of well-rotted barnyard manure into the soil for each 10 square feet of bed before planting.

Rhubarb is propagated from crowns (root sections) that contain one or two buds. Plants should be spaced 2 to 3 feet apart in the row with 4 to 5 feet between rows. The crowns are planted shallow so that the buds are just one-half to 1 inch below the soil surface. Firm soil around the crowns and make sure they are not in a depression that holds water. Recommended varieties include Canada Red, Crimson Red, McDonald and Valentine.

Rhubarb needs rejuvenated at least every 5 to 10 years and should be dug and divided in the same time period as new plantings are established. Use a cleaver or axe to cut crowns into sections that each contain one or two buds. Plant as described above.

Newly transplanted rhubarb should not be harvested the first year so the plant can recover from the transplant process. Only a few stalks should be harvested the second year to allow the plant to continue to build up its energy reserves. The harvest season for plants that are three years or older usually lasts about 8 weeks. Harvest only the largest and best stalks by pulling them slightly to the side so that they break away from the plant. Never harvest over one-third of the leaf stalks at one time. Only the leaf stalk (petiole) is eaten as the leaf blade contains oxalic acid and is poisonous.

Mulches can be used to reduce moisture loss, prevent weed growth and provide winter protection. However, it should be pulled away in the spring to allow the soil to warm so that early growth is encouraged. (Ward Upham)

PRUNING

Pruning Deciduous Shrubs

Gardeners are eager to get out and do something in the landscape this time of year. One chore that can be taken care of during March is pruning certain shrubs. Often, gardeners approach pruning with trepidation, but it is not as difficult as it may seem. Remember, not all shrubs need to be pruned (i.e.,

witch hazel), and certain shrubs, which will be identified later in this article, should not be pruned this time of year. Shrubs are pruned to maintain or reduce size, rejuvenate growth, or to remove diseased, dead or damaged branches. Deciduous shrubs are those that lose leaves each winter. Evergreen shrubs maintain foliage all year and include yews and junipers.

Deciduous shrubs are placed into three groups:

- Those that flower in the spring on wood produced last year;
- Those that flower later in the year on current seasons' growth; and
- Those that may produce flowers, but those flowers are of little ornamental value.

Shrubs that flower in the spring should not be pruned until immediately after flowering. Though pruning earlier will not harm the health of the plant, the flowering display will be reduced or eliminated. Examples of these types of plants include forsythia, lilac, flowering quince, Vanhoutte spirea, bridal wreath spirea and sweet mockorange.

Shrubs that bloom on current seasons' growth or that do not produce ornamental flowers are best pruned in March. Examples include Rose-of-Sharon, pyracantha, Bumald spirea, and Japanese spirea. Pruning during the spring allows wounds to heal quickly without threat from insects or disease. There is no need to treat pruning cuts with paints or sealers. In fact, some of these products may slow healing.

There are three basic methods used in pruning shrubs: thinning, heading back, and rejuvenating.

Thinning is used to thin out branches from a shrub that is too dense. It is accomplished by removing most of the inward growing twigs by either cutting them back to a larger branch or cutting them back to just above an outward- facing bud. On multi-stemmed shrubs, the oldest canes may be completely removed.

Heading back is done by removing the end of a branch by cutting it back to a bud and is used for either reducing height or keeping a shrub compact. Branches are not cut back to a uniform height because this results in a "witches-broom" effect.

Rejuvenation is the most severe type of pruning and may be used on multi-stem shrubs that have become too large, with too many old branches to justify saving the younger canes. All stems are cut back to 3- to 5-inch stubs. This is not recommended for all shrubs but does work well for spirea, forsythia, pyracantha, ninebark, Russian almond, little leaf mock orange, shrub roses and flowering quince. (Ward Upham)

Plants Breaking Dormancy Early

Plants that become dormant in preparation for winter must have a certain number of "chilling hours" before the buds will begin growth the next spring. "Chilling" hours are those in which the temperature remains between 32 and 45 degrees F.

Plants differ in the number of chilling hours needed, with those adapted to colder climates usually requiring more than those adapted to warmer zones. Even plants within the same species can differ markedly in the number of chilling hours required for bud break. For example, apple varieties range from a low of 250 (or fewer) chilling hours to a high of 1700.

The chilling requirements of some plants have been met already this winter. For these plants, dormancy is over and warm periods can lead to bud swell or even flowering. If spring-flowering bulbs flower now, the floral parts may be damaged by a cold snap but the plants itself will likely be OK. It all depends on the severity of the cold snap.

So what do you do if you have a plant that has swollen buds? Actually, there is not much you can do to slow the bud development process because it is completely dependent on weather. However, watering during dry weather may help in an indirect way. Roots can suffer drought damage during the winter. A tree with a damaged root system and damaged buds will be slower to recover than one with just damaged buds. Readily available soil moisture will aid in keeping the plant healthy so it will be better able to recover from cold damage. Also, it is important to determine if the swollen buds are flower buds or leaf buds. Even if the flower buds are killed by cold temperatures, the health of the plant

should not be affected. If, in addition to the swollen buds, you also see small buds on the stems, then the swollen buds are flower buds and the small buds are leaf buds.

Leaf buds are more hardy than flower buds but even they can be killed if they have lost their winter hardiness. Even if the leaf buds swell and are killed by a cold snap, a healthy tree will still be able to survive. There are secondary buds that remain dormant unless the primary bud is killed. Secondary bud growth may be slower and less vigorous, but the tree will eventually recover. (Ward Upham)

Soil Temperature and Vegetables

One of the most neglected tools for vegetable gardeners is a soil thermometer. Soil temperature is a much better measure of when to plant than air temperature or the calendar. Planting when soil is too cool can cause seeds to rot and transplants to refuse to grow.

A number of vegetables can germinate and grow at cool temperatures. For example, peas will germinate and grow well at a soil temperature of 40 F. Though lettuce, parsnips, and spinach can sprout at a soil temperature of 35 F, they prefer at least 45 F for best germination and growth. Radishes also do well at a soil temperature of 45 F. Warm-season crops such as tomatoes, sweet corn and beans prefer at least 55 F for germination (or transplanting), but others such as peppers, cucumbers, melons and sweet potatoes need it even warmer, about 60 F.

Taking soil temperature accurately is a bit of a science. First, use a metal soil thermometer, which is sold in many garden and hardware stores. Take temperature 2.5 inches deep at about 10 to 11 a.m. Temperature variations throughout the day and night affect soil temperature, with lowest readings after dawn and warmest around mid-afternoon. The late-morning reading gives a good average temperature. If taking the soil temperature at this time is not practical, take a reading before you leave for work and a second when you return home and use the average. Also be sure to get a consistent reading for four to five days in a row before planting, and make sure a cold snap is not predicted.

An excellent guide sheet on this subject is published by the Alabama Cooperative Extension System and is titled "Soil Temperature Conditions for Vegetable Seed Germination." It can be found at http://www.aces.edu/pubs/docs/A/ANR-1061/ANR-1061.pdf (Ward Upham)

Crops

Spring herbicide applications on winter wheat: The importance of wheat growth stage

The unseasonably warm temperatures recently have caused wheat to green up and begin spring growth considerably earlier than normal in Kansas. Producers should pay close attention to the growth stage of their wheat before making their herbicide applications.

Dicamba can be applied to wheat between the 2-leaf and jointing stages of wheat. Application of dicamba after wheat reaches the jointing stage of growth causes severe prostrate growth of wheat and significant risk of yield loss. Dicamba is effective for control of kochia, Russian thistle, and wild buckwheat, but is not good for control of mustard species. Kochia, Russian thistle, and wild buckwheat are summer annual weeds that may emerge before or after wheat starts to joint, so timing of dicamba for control of these weeds can sometimes be difficult. Fortunately, dicamba provides some residual control of these weeds following application.

Other herbicides that must be applied prior to jointing include Agility SG, Beyond (on Clearfield varieties only), Olympus, Orion, PowerFlex, Pulsar, Rage D-Tech, and Rave. MCPA and 2,4-D have different application guidelines. In general, MCPA is safer on wheat than 2,4-D, especially when applied prior to tillering. We recommend that 2,4-D not be applied to wheat until it is well-tillered in the spring. Application of 2,4-D prior to tillering hinders the tillering process, causes general stunting and can result in significant yield loss.

Figure 1. Stunting from an application of 2,4-D to wheat prior to tillering. Photo by Dallas Peterson, K-State Research and Extension.

2,4-D is labeled for application to wheat from the full-tiller stage until prior to the boot stage of growth, but is probably safest between full-tiller and jointing stages of growth. Wheat will sometimes exhibit prostrate growth from 2,4-D applications applied in the jointing stage of growth, but yields generally are not significantly affected if applied before the boot stage of growth.

MCPA is relatively safe on young wheat and can be applied after the wheat is in the three-leaf stage (may vary by product label) until it reaches the boot stage of growth. Consequently, MCPA would be preferred over 2,4-D if spraying before wheat is well-tillered. Neither herbicide should be applied once the wheat is near or reaches the boot stage of growth, as application at that time can result in malformed heads, sterility, and significant yield loss (Figure 2).

Figure 2. Malformed heads from an application of 2,4-D at boot stage. Photo by Dallas Peterson, K-State Research and Extension.

Both 2,4-D and MCPA are available in ester or amine formulations. Ester formulations generally provide a little better weed control than amine formulations at the same application rates, but also are more susceptible to vapor drift. Ester formulations generally are compatible for use with fertilizer carriers, while amine formulations often have physical compatibility problems when mixed with liquid fertilizer.

Other herbicides used in the spring on wheat can be applied up to the time the flag leaf is visible, or later. Affinity BroadSpec, Affinity TankMix, Ally Extra SG, Express, Harmony + 2,4-D or MCPA, Harmony Extra, and Supremacy must be applied before the flag leaf is visible. Huskie, Weld, and WideMatch can be applied through the flag leaf stage. Herbicides that can be applied later in the spring – prior to the boot stage -- include Ally + 2,4-D, Amber, Finesse, Starane Ultra, and Starane Plus Salvo.

Dallas Peterson, Weed Management Specialist

Alfalfa weevil larvae found in north central Kansas

Alfalfa weevil larvae were first detected this year in north central Kansas on March 3. Chuck Otte, Geary County Agriculture and Natural Resources agent, also reported finding small larvae on March 5 in Geary County and Tom Maxwell, Central Kansas District Agriculture and Natural Resources agent, also reported finding small larvae and pinprick-sized holes in new alfalfa leaves on March 9 in Saline County.

So, ready or not, alfalfa weevil larvae are here and, odds are that many more will be hatching in the next few days to weeks. Alfalfa weevils will continue to hatch and larvae continue to develop any time temperatures exceed 48 degrees F, - and those temperatures have been much more common than usual over the last few weeks. Forecasts for the next 7-10 days also call for warm conditions. Thus, it looks like larvae will be emerging, and damage progressing, relatively quickly.

Whether this warm weather will compress the alfalfa weevil larval feeding period so that the damage is not as stretched out as usual remains to be seen. There are also many lady beetles present in

the alfalfa fields we have checked -- as well as a few pea aphids. Treatment thresholds we use for alfalfa weevil insecticide applications are 30-50% infestation, or 1 larva for every 2-3 stems.
For more information on alfalfa weevils, please visit:
http://www.bookstore.ksre.ksu.edu/pubs/mf2999.pdf

Figure 1. Overwintering alfalfa weevil eggs in stem. Photo courtesy of K-State Department of Entomology.

Figure 2. Early instar alfalfa weevil larvae. Photo by Holly Schwarting, K-State Research and Extension.

Figure 3. Pinprick feeding damage by alfalfa weevil larvae. Photo by Holly Schwarting, K-State Research and Extension.

Jeff Whitworth, Extension Entomology, Holly Schwarting, Entomology Research Associate

First hollow stem update: March 8, 2016

Many varieties are now past first hollow stem (FHS) in the Hutchinson region. In some cases, a few selected stems in early varieties had already one visible joint as of March 8 (Fig. 1).

Figure 1. Some varieties already had the first joint visible by March 8. Photo by Romulo Lollato, K-State Research and Extension.

The average length of hollow stem for each variety, as well as the percentage of stems that reached FHS at time of measurements, is reported in Table 1. As of March 8, the varieties 1863, Gallagher, WB4303, WB-Cedar, and WB-Redhawk were past FHS in our test plots near Hutchinson. Varieties approaching FHS were Everest, KanMark, LCS Pistol, LCS Wizard, Overley, Ruby Lee, SY Flint, SY Wolf, TAM 114, WB4458, and WB-Grainfield. Varieties were considered to be approaching FHS when either selected stems were past FHS or when average hollow stem length was approaching 1.5 cm.

At this time, dual-purpose wheat producers who intend to harvest the wheat crop for grain should either have already removed cattle from their wheat crop or be preparing to do so for the varieties mentioned above. Grazing past FHS can severely impair wheat grain yield. Previous research in north-central Oklahoma has shown that grazing past FHS can lead to yield losses ranging from 1-5 bushels per acre per day, depending on weather conditions at grazing termination. Hot, dry weather increases yield losses associated with grazing past FHS. Varieties that have not yet reached FHS at time of this report may allow for a few additional grazing days, but producers are encouraged to actively scout their fields for FHS and already prepare to remove cattle at this time.

For more details on how to scout for FHS, please refer to Agronomy eUpdate article "Optimal time to remove cattle from wheat pastures: First hollow stem" in the Feb. 5, 2016 issue).

Table 1. Length of hollow stem measured on March 8, 2016 of 23 wheat varieties sown Sept. 26, 2015 near Hutchinson. The critical FHS length for purposes of cattle removal is 1.5 cm. Varieties highlighted in red are past FHS. Varieties highlighted in bold are approaching FHS.

Variety	Hollow stem length	Stems at FHS
	cm	%
1863	**1.54**	**60**
Bentley	0.69	0
Danby	0.60	0
Doublestop CL Plus	0.62	0
Duster	0.74	0
Everest	**1.24**	**0**
Gallagher	**1.51**	**50**
KanMark	**1.18**	**20**
LCS Chrome	0.73	0
LCS Mint	0.70	0
LCS Pistol	**1.22**	**10**
LCS Wizard	**0.99**	**10**
Overley	**1.35**	**40**
Ruby Lee	**1.38**	**50**
SY Flint	**1.07**	**10**
SY Wolf	**0.91**	**10**
T158	0.70	0
TAM 114	**1.04**	**0**
WB4303	**2.26**	**100**
WB4458	**1.38**	**40**
WB-Cedar	**2.26**	**80**
WB-Grainfield	**1.15**	**0**
WB-Redhawk	**1.74**	**60**
Variety	P < 0.01	
LSD (0.05)	0.52	

The intention of this report to is provide producers a weekly update on first hollow stem of different wheat varieties in the current growing season. Producers should use this information as a guide, but it is extremely important to monitor FHS from an ungrazed portion of each individual wheat pasture to take the decision of removing cattle from wheat pastures.

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