

# Horticulture 2017 Newsletter

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**Video of the Week:** [Tips for Growing Blueberries](#)

## VEGETABLES

### The Difference Among Determinate, Semi-Determinate and Indeterminate Tomatoes



Tomatoes are often classified as determinate, semi-determinate or indeterminate. Determinate plants produce one large crop and then virtually nothing thereafter. They are favored by commercial growers that want to harvest most of the fruit from one picking. They then use succession planting where a new crop is planted on a set schedule to have fruit production throughout the season. Mature plants are smaller than other types and can be planted closer together to get the most tomatoes from a set

space. Primo Red is a variety that is strongly determinate.

Indeterminate plants are the traditional tomatoes that never stop growing. They are capable of producing fruit throughout the season unless disease stops production or until frost kills the plant. They do best with support as they can reach six feet tall when staked or caged.

Semi-determinate plants are more compact than indeterminate types but are also capable of producing fruit throughout the season.

Most of the varieties available to home gardeners are either indeterminate or semi-determinate. Though both are capable of producing fruit throughout the season, our hot Kansas summers often cause a dry spell in production of both types. Tomatoes are less likely to set fruit when night temperatures remain above 75 degrees and day temperatures are above 95. Hot, dry winds make the situation worse.

Gardeners with limited space will likely prefer indeterminate or semi-determinate types to stretch out the harvest season. If there is space, you may want to grow a combination of all three with the determinates used to produce a large harvest for canning or tomato juice and the remainder for fresh eating. (Ward Upham)

## More Tomato Trial Information



Last week we looked at tomato ratings from a trial done in Missouri with data from 2015 and 2016. This week we look at ratings done across Kansas during 2016 but from four separate sites. We looked at 10 different varieties and recorded the number of fruit per plant, the total number of pounds of fruit per plant and the average size of tomato in ounces. Results are below.

<u>Tomato</u>	<u>Fruit plant</u>	<u>Lbs/ plant</u>	<u>Avg. oz/fruit</u>
Celebrity	43.03	22.40	5.80
Dixie Red	17.43	8.96	6.23
Ultrasonic	44.59	16.87	4.60
Summerpick	24.42	13.21	5.81
Defiant	66.68	15.61	2.80
Katana	26.05	9.14	4.37
Mountain Magesty	32.08	15.50	5.76
Jetstar	43.28	13.96	4.09
Chefs Choice	39.38	20.73	5.57
Burrells Special	35.62	13.64	4.44

Celebrity was our standard for determinate or semi-determinate tomatoes. We use Celebrity as our standard as it has proven to be an excellent tomato for years. All listed tomatoes are determinate or semi-determinate except the last three (Jetstar, Chefs Choice and Burrells Special). Celebrity continues to prove itself to be an excellent yielding tomato with more pounds per plant than any other in the trial. Fruit size was also very good with only Dixie Red surpassing it.

The latter three are indeterminate types with Jetstar being the standard. In this case, Chefs Choice produced more pounds per plant than either Jetstar or Burrells Special. Chefs Choice also produced the largest fruit of the three.

## PESTS

### Fungus Gnats

Fungus gnats are small insects (1/8 to 1/10 inch long) that are common in high-organic-matter houseplant soils



that are kept moist. Though adults are mosquito-like in appearance, they do not bother humans or pets. It is actually the larvae or maggots that can injure plants by feeding on the roots. Symptoms include sudden wilting, loss of vigor, poor growth and yellowing leaves. Use of sterile media and avoiding overwatering can help prevent infestations. Existing infestations can be controlled *Bacillus thuringiensis v. israelensis* (Gnatrol). (Ward Upham)

## MISCELLANEOUS

### Bringing Houseplants Down to Size



We sometimes receive calls from gardeners who wish to donate houseplants that have outgrown their location. In most cases, we don't have room to accept plants and suggest that people bring them down to size by air-layering. Air-layering is a process where a branch or the main stem is encouraged to form roots while still attached to the parent plant. After rooting, the original plant is discarded and the newly rooted one is potted as a replacement. Though this propagation technique cannot be used on all houseplants, it does work well on many that

tend to outgrow their boundaries including croton, dracaena, dieffenbachia, Norfolk Island pine, rubber plant and schefflera.

It is best to choose wood that is about 1 year old. Older or more immature wood often roots poorly, if at all. Any place on the stem that is of the proper maturity can be used, but a convenient location is often about 12 inches from the tip. Following are the steps required for air-layering:

- \* Leaves should be removed around the area to be air-layered.
- \* Wound the stem. This can be done by making a slanting cut upward, an inch or more in length and halfway through the stem. Place a portion of a toothpick in the cut so it cannot close and heal. If the stem is seriously weakened, use a stick "splint" to prevent breakage. Another method that works well is to strip the bark completely around the stem in a band one-half to one inch wide.
- \* Apply rooting hormone to the wounded surface of the cut or the stripped portion of the branch.
- \* Pack a baseball-sized wad of moist, unmilled sphagnum peat moss around the wounded area so it forms a ball. This is where new roots will form. It is important to use the long, stringy unmilled peat moss rather than the more common milled material so peat moss does not fall away from the stem when released. Even unmilled peat moss may need to be secured with string to keep it in place.
- \* Wrap the ball of sphagnum peat moss with clear plastic wrap. Be sure to use enough wrap so that the plastic overlaps and prevents the ball from drying out. Secure the top and bottom edges of the wrap closed with electrical tape, string or other convenient fasteners.

Roots may appear in as little as a month though it may take much longer for the plant to be ready for transplanting. Check periodically to be sure peat moss remains moist. Water if needed. When

roots have filled the peat moss, the plant is ready to be severed from the parent and transplanted.  
(Ward Upham)

## Poisonous Plants

Some of the plants we commonly use in our homes, gardens and landscapes are poisonous. We often have requests from parents who want to make sure their plants are safe for young children.

The following poisonous plant list came from various University websites.

### Flowers

caladium (all parts)  
cardinal flower (all parts)  
castor bean (seeds and leaves)  
daffodil (all parts)  
flowering tobacco {Nicotiana} (leaves and flowers)  
four-o'clock (roots and seeds)  
foxglove (all parts)  
hellebore (all parts)  
iris (all parts)  
lantana (unripe fruits and leaves)  
larkspur {Delphinium} (all parts)  
lily of the valley (all parts)  
lupine (all parts)  
monkshood(all parts)  
poppy (all parts except ripe seeds)  
snowdrop (bulb)  
spurge (milky sap)  
star-of-Bethlehem (all parts)  
sweet pea (seeds, seedlings, and pods)  
tulip (bulbs)

### Houseplants

Chinese Evergreen  
anthurium (all parts)  
aloe (sap if ingested)  
calla lily (all parts)  
croton (seeds, leaves, and stems)  
crown-of-thorns (milky sap)  
dieffenbachia (all parts)  
elephant ear (all fig (leaves, fruits, and sap)  
Jerusalem Cherry (all parts)  
mistletoe (all parts)  
Philodendron (all parts)



## **Fruits**

apple (bark, leaves, seeds)  
pear (bark, leaves, seeds)  
apricot (bark, leaves, seeds, pits)  
peach (bark, leaves, seeds, pits)  
nectarine (bark, leaves, seeds, pits)  
plum (bark, leaves, seeds, pits)  
cherry (bark, leaves, seeds, pits)  
avocado (leaves, unripe fruit, bark, and seeds)

## **Landscape plants**

azalea (leaves and flowers)  
black locust (all parts)  
Boston ivy (berries)  
boxwood (leaves and twigs)  
buckeye (leaves, shoots, bark, flowers, and seeds)  
burning bush (all parts)  
cherry (leaves, twigs, bark, and seeds)  
clematis (leaves)  
elderberry (roots, stems, bark, leaves, and unripe fruits)  
English ivy (all parts)  
golden chaintree {Laburnum} (all parts)  
holly (berries and leaves)  
horsechestnut (all parts)  
hydrangea (leaves and buds of some species)  
Kentucky coffee tree (seeds, fruit pulp, leaves, twigs)  
oak (acorns, leaves, and young shoots of some species)  
poison sumac (all parts)  
privet (all parts)  
rhododendron (leaves and flowers)  
Virginia creeper or woodbine (berries)  
yew {Taxus} (all parts except the fleshy red cover on the seed)  
wisteria (all parts)

## **Vegetables**

potato (green skin, buds, and sprouts on tubers, also fruits and foliage)  
rhubarb (leafy blade, not the leaf stalk)

For more information, consult the following references.

**Common Poisonous Plants and Mushrooms of North America**, Turner and Szczawinski, Timber Press, Inc. ISBN 0-88192-179-3

**Potentially Poisonous Plants in the House and Garden**,

<http://www.northcarolinahealth.com/poisonous-house-plants-and-vegetables.php> (Ward Upham)

## Plants Recommended for Kansas



If you have had trouble finding a listing of plants recommended for Kansas, visit our web page devoted to this topic. We have links to a wide variety of plants including annual flowers, perennial flowers (including breakouts for iris and daylilies), fruit, vegetables, turfgrass, low-maintenance roses and tree recommendations that are broken out by areas of the state. We also list recommended low water use plants. You can find this page at [http://hnr.k-state.edu/extension/info-center/recommended-](http://hnr.k-state.edu/extension/info-center/recommended-plants/)

[plants/](http://hnr.k-state.edu/extension/info-center/recommended-plants/)

We also have images of hundreds of the following:

- Varieties of iris, daylilies, roses and peonies found in the University Gardens Collection Gardens at <http://www.k-state.edu/gardens/gardens/collections/>

- Annual flowers recommended for Kansas at [http://www.prairiestarflowers.com/Prairie\\_Star\\_nav.html](http://www.prairiestarflowers.com/Prairie_Star_nav.html)

- Perennial flowers at [http://www.prairiestarflowers.com/Prairie\\_Bloom\\_nav.html](http://www.prairiestarflowers.com/Prairie_Bloom_nav.html) (Ward Upham)

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To view Upcoming Events: <http://hnr.k-state.edu/events/index.html>

The web version includes color images that illustrate subjects discussed. To subscribe to this newsletter electronically, send an e-mail message to [cdipman@ksu.edu](mailto:cdipman@ksu.edu) or [wupham@ksu.edu](mailto:wupham@ksu.edu) listing your e-mail address in the message.

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