Getting a Head Start – Growing Plants from Seed

Earliness, economy of space and lengthening of the growing season may be obtained by transplanting many vegetables instead of sowing the seed directly in the field or garden. Moreover, with some kinds of vegetables, it is almost impossible to establish good stands from seed sown directly in the field or garden.

Growing transplants requires skill and care. Factors such as light, temperature, humidity, watering and the physical condition and fertility level of the plant-growing media must be considered.

**Starting the Plants**

Two basic systems are used for starting seedlings:

1. **Seeding directly in small pots or growing containers.**
   - Vine crops (cucumbers, muskmelon, watermelon, pumpkin and squash) must be directly seeded into growing containers since they will not survive if transplanted as seedlings.

2. **Seeding into flats and later transplanting into growing containers.**
   - The first method involves less handling of the small plants. The second method involves less handling of the small plants. The soil surface should be kept moist. To help maintain proper temperature (temperatures vary between 60°F and 95°F depending on species) and moisture for germinating seeds, the flats or pots may be covered with plastic until the seedlings break through the soil.

**Growing On**

As soon as seedlings emerge they should be grown at a somewhat lower temperature than that required for germination. The soil surface should be wet only as often as necessary to keep the young plants growing.

Low light, excessive nitrogen and high temperature cause excessive stem elongation. Seedlings exposed to a high light level (full sunlight) will mature quicker and produce higher quality transplants.

Most growers begin transplanting seedlings when the first true leaves are forming, usually two to three weeks after sowing seed. Some prefer to begin when the plants are quite small. Set the seedling slightly deeper than it was growing in the seedling flat. Take care in firming the soil around the plant to avoid injuring the tender stems. Water seedlings thoroughly immediately after transplanting to prevent excessive wilting.

Transplants should never be overwatered except to flush excess salts from the growing medium. Slight wilting of plants periodically is not harmful. Adjust water, temperature and nitrogen fertilizer to control growth when plants are growing too fast.

Gradually harden plants for a week before transplanting them into the field or garden. Hardening prepares plants to withstand conditions such as chilling, high temperatures, drying winds and water shortages. Withholding water, nitrogen fertilizer and moderately lowering temperature are the best ways to harden transplants. Avoid over-hardening transplants since this will cause the plants to resume growth slowly after being set in the field or garden.

A young transplant is much better than an old transplant. One of the most common errors made by transplant growers is to start plants too early in the season. When held, transplants become too old and woody and are slow to resume growth after transplanting.

For maximum season’s yield, transplants should never have fruits, flowers or flower buds before transplanting. An ideal transplant is young, growing fairly rapidly, but slightly hardened at transplanting time. It should never be over-hardened or too soft when transplanted. Rapid growth following transplanting...
assures a well-established plant before fruit develops.

Follow these steps to produce disease-free transplants:

(1) Use disease-free seed or seed treated to rid it of disease-causing organisms.

(2) Use plant growing containers free of disease-causing organisms.

(3) Use a planting medium free of disease-causing organisms.

(4) Follow strict, "kitchen clean," sanitary practices.

(5) Keep plants and soil from remaining wet for long periods of time.

(6) To help prevent damping-off diseases, it may be necessary to use fungicide sprays or drenches.

For more information about growing vegetables see fact sheets HLA-6020 Growing Vegetable Transplants, HLA-6004 Oklahoma Garden Planning Guide, and HLA-6032 Vegetable Varieties for the Home Garden in Oklahoma (These are available for download at http://osufacts.okstate.edu)

Pecan Graftwood Sources for 2008
Becky Carroll


2008 Oklahoma Proven Selections
David Hillock

Tree: Pinus heldreichii, Bosnian Pine
Shrub: Callicarpa americana, American Beautyberry
Perennial: Helleborus, Hellebore (promoting the genus)
Annual: Acmella oleracea ‘Peek-A-Boo,’ Spilanthes

For more information about Oklahoma Proven go to http://oklahomaproven.okstate.edu/ or contact Lou Anella, 405-744-6593, lou.anella@okstate.edu.

2008 All American Selections Winners
David Hillock

This year's winners in the All America Selections program include two annuals and one vegetable. **Osteospermum F1 'Asti White' Bedding Plant Award Winner**

Pure white daisy flowers with blue centers are the main attraction for 'Asti White.' The large blooms, 2 to 2-1/2 inches across are borne on stems that gracefully wave in the wind. The thick fleshy leaves indicate its drought tolerance, which makes this a preferred annual in any area subject to dry conditions. 'Asti White' is the first white Osteospermum, or Cape Daisy, propagated from seed. There are several advantages. The flowers will remain open under cloudy conditions, unlike other daisy flowers originating from South Africa, which close. 'Asti White' plants will flower uniformly about 17 weeks from seed. Gardeners have the choice of growing from seed or purchasing plants depending upon their resources. 'Asti White' plants will bloom and recover from a slight frost. These plants can be placed in the spring or fall garden, weeks earlier than other tender annuals. The uniform plants thrive in a sunny garden, reaching about 17 to 20 inches tall and wide. 'Asti White' plants adapt perfectly to growing in containers, preferably 6-inch pots or larger. Bred and produced by Goldsmith Seeds, Inc.
Viola F1 'Skippy XL Plum-Gold' Cool Season Bedding Plant Award Winner

Sunny gold faces charm people gazing at 'Skippy XL Plum-Gold.' The flowers are uniquely designed with plum shades surrounding the golden centers (face), which contain radiating black lines affectionately called whiskers. The blooms are small, about 1-1/2 inches, but are not to be underrated. The number of blooms produced more than makes up for the size. 'Skippy XL Plum-Gold' won the AAS Award for its ability to grow a lavish number of blooms. In the North, plants can be expected to bloom beginning with spring to the heat of summer. In the South, a fall planting may provide flowering golden faces throughout the winter. 'Skippy XL Plum-Gold' was bred by Kieft Seeds Holland.

Eggplant F1 'Hansel' Vegetable Award Winner

Best described as a miniature eggplant, 'Hansel' is a smaller-sized plant with finger-sized clusters of fruit. Just because of its smaller size, don't make the mistake of thinking it produces less fruit. The strong plant, reaching less than three feet, produces clusters of three to six fruit. They mature early, about 55 days from transplanting into warm soil. This is about 10 days earlier than the comparison eggplant. If the 3-inch fruit clusters are left on the plant, they grow in size, but remain tender and non-bitter, unlike other eggplant. This trait offers gardeners flexibility in harvest such as when taking a much-needed vacation. The fruit will be waiting for you as long as it's not a three-week cruise. If you prefer to garden in containers, 'Hansel' is highly recommended for your shopping list. 'Hansel' adapts perfectly to container growing conditions. The diminutive plant fits on smaller patios or decks but provides high yields of shiny purple eggplants ready to marinate and grill. 'Hansel' will be available as seed and young bedding plants. This AAS Winner was bred by Seminis Vegetable Seed.

To learn more about these and other AAS winners go to http://www.all-americaselections.org/.

2008 Perennial of the Year™

David Hillock

Geranium 'Rozanne'

The Perennial Plant Association has awarded the title of Perennial Plant of the Year® to Geranium 'Rozanne'. Donald and Rozanne Waterer discovered this strong performing hardy geranium in their garden in Somerset, England in 1989. It has 2 ½ inch, iridescent violet-blue, saucer-shaped flowers with purple-violet veins and radiant white centers. Bloom time is from late spring to mid fall.

- Hardiness – USDA Zones 5 to 8.
- Size – 20 to 24 inches tall and 24 to 28 inches wide.
- Light – Best in full sun to partial shade, afternoon shade is advisable in hot climates.
- Soil – Prefers moist, well-drained soil.
- Uses - Geranium 'Rozanne' may be used as a dynamic ground cover or as an attractive specimen plant. It is a good companion plant to Shasta daisy, perennial salvia, speedwell, hostas, and short ornamental grasses.
- Unique Qualities – The large violet-blue flowers with purple-violet veins and small white centers offer non-stop flowering through the growing season. It has one of the longest flowering
For more information about the Perennial Plant Association go to: http://www.perennialplant.org/

Garden Tips for February

General
- Base any plant fertilization on a soil test. For directions, contact your county Extension Educator.
- Provide feed and unfrozen water for your feathered friends.
- Clean up birdhouses before spring tenants arrive during the middle of this month.
- Avoid salting sidewalks for damage can occur to plant material. Use alternative commercial products, sand or kitty litter for traction.
- Join Oklahoma Gardening on your OETA station for the start of its 33rd season beginning on February 23, 2008. The show airs on Saturdays at 11:00 a.m. and Sundays at 3:30 p.m.

Trees & Shrubs
- Fertilize trees, including fruit and nut trees and shrubs, annually. (HLA-6412)
- Most bare-rooted trees and shrubs should be planted in February or March. (HLA-6414)
- Finish pruning shade trees, summer flowering shrubs and hedges. Spring blooming shrubs such as forsythia may be pruned immediately after flowering. Do not top trees or prune just for the sake of pruning. (HLA-6409)
- Look for arborvitae aphids on many evergreen shrubs during the warmer days of early spring.
- Gall-producing insects on oaks, pecans, hackberries, etc. need to be sprayed prior to bud break of foliage.
- Dormant oil can still be applied to control mites, galls, overwintering aphids, etc. (EPP-7306)

Fruit & Nuts
- Spray peaches and nectarines with a fungicide for prevention of peach leaf curl before bud swell. (EPP-7319)
- Mid-February is a good time to begin pruning and fertilizing trees and small fruits.
- Collect and store graftwood for grafting pecans later this spring.
- Begin planting blackberries, raspberries, strawberries, grapes, asparagus and other perennial garden crops later this month.
- Choose fruit varieties that have a proven track record for Oklahoma's conditions. Fact Sheet HLA-6222 has a recommended list.

Turf
- A product containing glyphosate plus a broadleaf herbicide can be used on dormant bermuda in January or February when temperatures are above 50°F for winter weed control. (HLA-6421)

Vegetables
- Cool-season vegetable transplants can still be started for late spring garden planting.
- By February 15 many cool-season vegetables like cabbage, carrots, lettuce, peas and potatoes can be planted. (HLA-6004)

Flowers
- Force spring flowering branches like forsythia, quince, peach, apple and weigela for early bloom indoors.
- Forced spring bulbs should begin to bloom indoors. Many need 10-12 weeks of cold, dark conditions prior to blooming.
- Feed tulips in early February.
- Wait to prune roses in March.

All-America Rose Selections 2008 Winning Roses

David Hillock

Dream Come True™
Dream Come True is a stunning sight of catchy colors, which lures the likes of even non-rose lovers to its side. This rose produces flawlessly formed yellow blossoms, blushed with ruby-red at the tips, all set amongst abundant matte green foliage. The big, bushy vigorous plant yields long-stemmed, long-lived blooms with mild tea fragrance, making it lovely in
Sanitation of Orchards and Vineyards
Important for Future Success
Eric T. Stafne

Although winter seems to drag on, spring is just around the corner. Along with the warmer weather come swollen, expanding and bursting buds. Flowers bloom, shoots elongate, leaves form. All of these things remind us that warmer (and hotter) weather is just weeks away. Then the rains arrive (we hope) providing water for the growing crops. However, the moisture supplied by the clouds above also creates an environment for fungal diseases to thrive. While fungal diseases cannot be eliminated entirely, there are some steps for reducing their presence. The ultimate disease reducer is genetic resistance. If one chooses a disease resistance cultivar, fungal diseases cannot proliferate (at least those to which the cultivar is resistant). Yet, for some fungal diseases there is no known resistance available (brown rot of peaches). So, in absence of genetic resistance an important measure to reduce the source and amount of inoculum is sanitation.

February is a great time to clean up the orchard or vineyard. Normally pruning has started and along with that activity come removal and destruction of prunings. Any material that has been pruned off a vine or tree should be disposed of properly – and for the most part that means burning. Burning of pruning material will destroy fungal spores as well as overwintering insects. In addition to pruned material, old fruit that was not harvested (mummies) should be taken out of the orchard or vineyard. This includes mummies that were left on the tree or vine as well as those that fell to the ground during the fall and winter. These old fruiting structures are a tremendous source of fungal inoculum.

Once the old fruit and pruning material have been removed and destroyed, clean out any leaves that fell last year and remained in the orchard or vineyard. These too carry numerous fungal spores and insect eggs. Old fruit, pruning material, and leaves are the main threats to a healthy orchard or vineyard. Once those are taken care of chances of success are greater. But, do not forget another pest – weeds. Removal of grasses and other weeds that directly compete with trees or vines can directly lead to better plant growth and health. When a tree or vine is healthy it can better withstand attack from diseases and insects. Therefore, don't look upon sanitation as an extra job, but rather as a critical cog to the overall success of the fruit production operation.
## Upcoming Horticulture Events

### Landscape Plant In-Service
**Extension Educator Training - May 20, Sunshine Nursery, Clinton, OK**

For more information, please contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

### Landscape IPM Conference
**May 28, OSU, Stillwater, OK**

For more information about upcoming events, please contact Stephanie Larimer at 405-744-5404 or stephanie.larimer@okstate.edu.

### Turf and Landscape Field Day
**September 17, 2008, OSU Botanical Garden, Stillwater, OK**

For more information, please contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.

### Greenhouse IPM Conference
**November 5, OSU, Stillwater, OK**

For more information, please contact Mike Schnelle at 405-744-7361 or mike.schnelle@okstate.edu.