Feature

Plant Propagation
By Shawn Banks

Propagating plants from the home garden is one of the most exciting aspects of being a gardener. There are several ways to propagate plants and it's always a challenge to master a new technique. The simplest form of plant propagation is sexual propagation. This is taking the pollen from one plant, say a camellia, with a white flower and transferring it to a camellia with a red flower then planting the resulting seed to see what color the flower might be. This may take years to get the results with a camellia, but with something like a petunia or a marigold it may only take a few months. The key is to isolate the flower that will set the seed so only the pollen from the desired male is introduced. A small paper bag tied around the stem works really well for this task.

A task that is a little scarier is plant division. This method requires cutting the plant to make more than one. This works best with perennial plants that spread by bulbs, roots, underground stems, or have large crowns that can be cut into pieces to develop more than one plant. The fear is that once the plant is cut, it won't be able to heal itself and continue growing.

Akin to plant division is plant layering. There are several kinds of layering including simple layering, serpentine layering, and air layering. Each method requires the propagator to in some way cover a portion of the stem in a moist environment, which encourages the plant to produce roots in this area. After roots are formed the stem is cut below the root system producing an individual plant. In some cases such as air layering, the stem may need to be damaged and a rooting hormone applied to encourage root formation. In all cases this process takes several months to produce a new plant.

Rooting cutting should be the truly scary method of plant propagation. In this propagation method a section of the stem is completely removed from the plant with no roots to support it. Most often a
rooting hormone is used to encourage rooting. The cutting is then placed in moist soil and into an environment with high humidity. When several cuttings are being rooted all at one time a mist system is used to keep the plant from drying out before roots can be established. For the home gardener a sealable plastic bag will be enough to keep the humidity high. When using the plastic bag method, put the plant in an area of bright light without it being in direct sunlight. Also, if the plant is in flower when the cuttings are taken, remove the flowers or buds. Flowers take valuable energy that needs to go to root production.

Grafting is a tricky practice. It has been around for thousands of years. This is truly a practice that is as much art as it is science. Grafting is the art of taking a piece of one plant and splicing it onto another plant. The approach graft is probably the safest method of grafting, because both plants are still alive when they are joined together and aren't separated until the graft union is formed. Most types of grafting including cleft grafting, whip and tongue grafting, T-budding, and chip budding all require a piece of the desired plant (scion) to be removed before being attached to the rootstock of another plant.

The art part of this is matching the cambium layer of both plants so a bridge can be formed between the scion and the rootstock. The area where the plants are joined must remain moist throughout the joining process, which may take a few weeks to a few months. There are two basic ways this is done, one is with grafting wax, and the other is with budding rubbers. The wax is a soft wax that can be worked around the graft union to seal in the moisture. The budding rubber is a special type of rubber band that will deteriorate after a few months.

The science part of grafting is knowing which plants are compatible and when to make each type of graft. Most grafting is done in the spring when the plants are dormant, but beginning to wake up. But there are some grafts that can be done at any time.

For more information on the different types of grafting view some of the following references.

How to Divide Perennials, http://www.ces.ncsu.edu/johnston/homehort2/howto.html#DIVIDE_PERENNIALS


Grafting and Budding Nursery Crop Plants, http://www.ces.ncsu.edu/depts/hort/hil/grafting.html

**FEATURE PLANT**

**Butterfly Milkweed “Asclepias”**

by: Maxine Willis

The Butterfly milkweed produces many bright orange, flat-topped flower clusters from late spring through late
summer. It is a host plant for the famous monarch butterfly. The milkweed provides lots of nectar for the adult butterfly and this serves as home and a food source for monarch caterpillars.

This plant thrives in average or dry soil and prefers full sun. Butterfly milkweed is best to establish as a young plant. Because it has a large taproot, mature plants of the butterfly milkweed are not easy to transplant. Once established, butterfly milkweeds will self seed if seedpods are not removed.

Asclepius tuberose is a great choice for a meadow garden. If you are looking to pair it with other plants, look at native grasses and wildflowers, such as asters and purple coneflowers (Echinacea purpurea), to create a butterfly habitat. In a perennial border, pair it with lilies (Kniphofia) and other fiery flowers, or with cooler blues and purples, such as a veronica plant.

Problem and Solution: The main pest is the aphids that cluster at the top of the plant. To remedy this problem, just knock them off with a strong spray of water every two or three days for a week.


Perennial Combinations, C. Colston Burrell Rodale Press, 1999

www.abnativeplants.com
www.nababutterfly.com

UPCOMING EVENTS

Events at the Arboretum at JCC These events have a fee, and people interested in attending these events should pre-register on their website or by calling 919 209-2052.

Wednesday, May 16 - 8:00am - 4:00pm tour to SEEDS and Witherspoon Rose Culture - $15.00 and lunch on your own. Project SEEDS encourages respect for life, for earth & for each other, helping individuals, neighborhoods & communities grow together through gardening, gathering & education.

Wednesday, June 6 - 8am -2pm Sarah P. Duke Gardens/Patterson’s Mill Country Arboretum Mobile Unit, Durham, Chapel Hill - $15.00 and lunch on your own. You will have the opportunity to learn about the history of Duke Gardens as well as tour the entire gardens.

Tuesday, June 12 - 8am - 5pm Bluebird Hill Farm- Arboretum Mobile Unit, Bennet - $35 lunch included. Join us as we visit this USDA Certified Organic Farm specializing in herbs, vegetables, cut flowers, native plants, farm crafts, and foods.

Wednesday, June 20 - 8am - 5pm Fearrington Gardens - Arboretum Mobile Unit, Chapel Hill $15 lunch on your own at Old Granary Restaurant. These beautiful grounds are filled with small gardens, cutting beds, specimen trees, fountains and more.

Wednesday, June 27 - 7am - 6pm Elizabethan Gardens - Arboretum Mobile Unit, Manteo $20 includes boxed lunches. These gardens are located on the same site where the colonists first landed. The entire garden is filled with history and beauty.
For **Johnston County CES Events**: Continue to check the Events calendar for possible upcoming plant clinics.

**YARD VILLAINS**

![Image of Bag Worms]

**Bag Worms**

*Thyridopteryx ephemeraeformis*

Article and Picture by: Tina Stricklen

When it comes to dealing with bagworms in the home landscape, the best defense is a good offense. Knowing their life cycle will help you understand what to look for and at what time of year to take action. The chart below provides a quick reference of their life history:

**Life Cycle:**

**Winter**
The eggs over-winter inside the bag made by the previous year’s female.

**Spring**
Eggs hatch from late May to early June, at which time the larvae crawl out in search of food. Each constructs a small bag around its hind parts with silk and plant material.

**Summer**
Feeding, growth, and molting continue until August, at which time the mature larvae attach themselves to twigs. They close the bag and reverse themselves so that they are head down in the bag. They remain there for about four weeks as pupae.

**Fall**
During September and early October, they female release a sex attractant pheromone and the males leave their cases and fly to the female bags to mate. Females lay 500-1000 eggs per bag.

**Source:** Penn State Cooperative Extension - College of Agricultural Sciences, *Woody Ornamental IPM*

Understandably, it is easier to deal with this pest when the larvae are small (less than ½-inch long); this is usually in June. When applying insecticide, consider using those compatible with beneficial insects. These include insecticides with active ingredients such as spinosad or *Bacillus thuringiensis* (*B.t.*). If you observe the large bags on trees and shrubs in fall or early spring before eggs hatch, hand-pick and destroy them. Be aware that it may be difficult to reach them on larger plants.

As mentioned, evergreen trees such as Leyland cypress, arborvitae, juniper, spruce, and cedar are typical targets for these pests. However, deciduous trees and shrubs may also serve as host plants, so keep an eye out on these as well. As with many pests, keeping a watchful eye on your garden will help you stay ahead of a potentially devastating problem. If you have further questions about this insect, please contact the help desk at (919) 989-5380.

**Sources:**

[http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/ort081e/ort081e.htm](http://www.ces.ncsu.edu/depts/ent/notes/O&T/trees/ort081e/ort081e.htm)

[http://woodypests.cas.psu.edu/FactSheets/InsectFactSheets/html/Bagworm.html](http://woodypests.cas.psu.edu/FactSheets/InsectFactSheets/html/Bagworm.html)
Squash can be divided into two categories; summer squash and winter squash. Since we are approaching summer, this article will briefly describe how to grow summer squash, when and how to harvest it, and, of course, a delicious recipe for all of those who are real serious about their squash garden.

Some things you will need:

- Garden (or at least an area that receives adequate amounts of light; full sun)
- Fertilizer
- Water
- Healthy soil
- Time for weeding

How to Plant

Plant squash seeds in rows (12 – 18 inch spacing) or hills (3 – 4 per hill space hills 3 – 4 feet apart) no more than one inch deep. After the seeds germinate pick the best 2 -3 squash plants to work with in the hill and remove the others. These will need as much sun and food as possible, the second-best plants will only take away from the chosen squash's nutrition.

One thing you must know about squash is they don’t like “wet-feet.” This means wherever you decide to plant squash it should have well-drained soil.

The more fertilizer, the bigger the harvest! Squash love food! Fertilize with a liquid feed once every 2 weeks or with a granular fertilizer once a month. Adding compost to the soil before planting or as a mulch after planting is another great source of nutrition.

Make sure to water regularly. If plants are too dry or too wet, they will drop their fruit prematurely. You definitely want the most “bang” for your buck. Keep the soil consistently moist, but not too wet, and don’t allow it to dry out between watering.

Make sure to weed regularly, as well. Weeds take nutrients from the squash, so make sure you don’t let this happen.

When the squash is growing, take time to train the vines to go in the direction(s) that you want them to go. Remove the tertiary vines (they come off of the main vines), as well; this will spawn larger fruit growth.

Harvest

Summer squash should be ready to pick when it reaches about six inches in length. Squash larger than this may taste bitter. You can also use the ‘rule of thumb’ theory to determine if the squash is ripe or not. If the skin is hard
when you push your thumbnail into it, the squash is more than likely going to taste bitter.

Cut the squash off the vine with a gardening utensil or knife and make sure to leave a small bit of stem for future fruiting.

*(Tip: The more you harvest, the more fruit the plant will produce.)*

### Recipe

Did you know that squash flowers are edible? Here’s a recipe for you to try!

**Squash Blossom Quesadillas**

1 medium onion, diced
1 clove garlic, minced
1 poblano pepper, roasted, peeled, seeded, and diced
10 squash blossoms
1/2 cup chicken stock
3 fresh epazote, (chop finely)
Salt

Ground black pepper
4 flour tortillas
1/4 pound grated Mexican white cheese
Olive oil, butter or margarine, for cooking

1. Heat your sauté pan with a little bit of olive oil. You want to then sauté the onion, roasted poblano pepper, and the garlic for 5 minutes.
2. Add the squash blossoms. You should deglaze these with your chicken stock.
3. Add the epazote. Cook for another 5 minutes.
4. Add salt and pepper to suit your liking.
5. Set aside to cool down.
6. Lay two tortillas down on a flat surface.
7. Distribute cheese evenly on both tortillas.
8. Spread half of the squash blossom filling over the cheese.
9. Top the tortillas off with another tortilla and place over a heated griddle or sauté pan until cheese is melted.
10. Cut the tortillas into quarters and you’re done!

### Works Cited


Pictures by: Nikki Whitt
**JUNE GARDEN TASKS**

**LAWN CARE**

[http://www.turffiles.ncsu.edu/](http://www.turffiles.ncsu.edu/)

- When do you water your lawn? When the grass blades are just starting to curl and your footprints remain on the lawn when you walk on it. Apply an inch of water in the early morning, this allows the lawn to dry during the day. The ground is dry so cycling the irrigation applying a little at a time will allow the water to soak deep into the soil.
- It's a good time to plant new sod in damaged areas. Get your soil tested first (we have free kits).
- Grasses vary in their needs for nutrients, mowing height and watering. To learn how to best care for your grass type check out the Lawn Maintenance Calendar for your grass and learn how best to care for it, month by month ...
  - Bermuda - [http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000016](http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000016)
  - Centipede - [http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000019](http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000019)
  - Zoysiagrass - [http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000020](http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000020)
  - Tall Fescue - [http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000017](http://www.turffiles.ncsu.edu/Maintenance_Calendars.aspx#000017)
- This is NOT the time for planting or fertilizing fescue! Wait until the fall.
- Mow fescue at a height of 3 - 3 1/2 inches to help it survive hot, dry periods. It is a cool season grass that slows down in the summer and if cut too short the tender roots will be exposed to extreme heat which will certainly damage, if not kill, it. It is also difficult for the fescue to recover from being cut too short as it is not actively growing at this time.

**TREES, SHRUBS & ORNAMENTALS**

- Prune climbing roses after they bloom, then fertilize them to stimulate new growth. This summer’s growth carries next year’s buds, so keep the plants growing vigorously! Train long shoots horizontally to stimulate more branching. [http://cetulare.ucdavis.edu/mg/Pruning%20Climbing%20Roses.pdf](http://cetulare.ucdavis.edu/mg/Pruning%20Climbing%20Roses.pdf)
- As soon as their foliage dies, dig bulb clumps that have become crowded: daffodils, crocus, Dutch iris, etc. Divide and replant bulbs immediately, or store them in a cool, dry place for planting this fall. (Note: Tulips and Hyacinths generally don’t perennialize in our area because our spring and winter is too warm.)
- Give plants room to grow. Pull/transplant excess seedlings of marigold, cosmos, zinnias, etc. Growing plants need room to develop. Spacing plants properly reduces the risk of fungal diseases like powdery mildew.
- Remove faded flowers. Many annuals and perennials will stop blooming once they’ve started to set seed. Dead heading or removing spent flowers will prolong the bloom period.
- Pinch growing tips of ornamentals. Pinching the growing tips will encourage compact, sturdy, branched growth with lots of blooms.
- Protect plants from dehydration. Transplanting on overcast days, early in the morning, or late in the afternoon will reduce water loss in transplants. Keep newly-planted ornamentals well watered for the first several days.
Apply a 2-3” layer of mulch to conserve water and keep roots cool.

EDIBLES

• Squash plants wilting? squash vine borers may be the culprit. Check near the base of the plant for a small hole and a mass of greenish-yellow excrement. Slitting open the stem may reveal the villain: a fat, white caterpillar. It may be possible to save the plant by removing the caterpillar, then covering the injured vine with moist soil to encourage rooting.

• Warmer temperatures and longer days send a signal to spring greens that it is time to flower (bolt). Leaves generally do not taste as good when the plant starts to bolt. Once this quick process starts, there is no turning back. To delay bolting try the following - Cover spring salad greens with a cardboard box in mid afternoon. Remove it after sunset and give the plants a slurp of water to cool them down. This procedure fools the plants into thinking the days are shorter than they actually are and can delay bolting by a couple of weeks. -- Barbara Pleasant

LANDSCAPE IDEAS

• Tropical natives make excellent additions to our gardens in the summer, with colorful foliage, bright flowers, and heat-loving constitutions. They can’t survive our winters, but we can try over-wintering our favorites indoors. Ornamental peppers and Jerusalem cherries are other heat-lovers. More exotic tropica ls, such as Alternanthera (Joseph’s Coat), Plectranthus (with lovely gray felty leaves), and Acalypha (Copper Plant), are becoming available. Visit the J.C. Raulston Arboretum at NCSU to see first-hand how tropica ls can spice up our summer gardens.

• Mulch flower beds and vegetable gardens now to save on watering chores later. The mulch you choose should be one you think enhances the beauty of your garden. Find more information at: http://www.ces.ncsu.edu/depts/hort/hil/hil-608.html

• Keep outdoor potted plants watered; in the heat they lose a lot of moisture. If you’re going on vacation, ask a friend to check your plants regularly.

HOUSEPLANT

• Water houseplants as needed. Do not allow them to dry out to the point of wilting, but watering too often will lead to root rot. Watering needs will vary according to the size of the plant and the container it is in.

• If moving plants outside for a summer vacation, move them slowly into the light. If put directly into the light after being in the house all winter the sun will give them a sunburn and could kill the plants.

• Remember to fertilize. This is the time when most houseplants will be doing the most growing and will need the nutrients to stay green and healthy.

• General Houseplant care: http://muextension.missouri.edu/xplor/agguides/hort/g06510.htm