



# Horticultural Update

## Plant of the Month - April

*Nicotiana alata*  
Flowering Tobacco

By William C. Welch  
Landscape Horticulturist

**N**icotianas are tender perennials that overwinter in mild parts of the state and reseed wherever planted. *Nicotiana alata* and certain other species are often planted for their fragrance which is most apparent in the evening.

Tubular-shaped flowers in white, rose red, scarlet, lime green and mauve appear on branched stems during summer. Recent years have seen a significant increase in the number of dwarf varieties that bloom on short stems. Although the more compact types are very useful for mass color displays, they usually lack the fragrance of the larger-growing, older types.

Foliage is large, somewhat coarse and sticky, and resembles commercial tobacco to which it is related. New plants may be started easily from seed sown directly into the garden or as transplants. Cuttings will also root but are rarely used since the seed grows so readily.

The fragrant types are sometimes planted near a window where the fragrance can move indoors. A renewal of interest in fragrant plants has brought a new interest in the larger-growing, more fragrant types. They are attractive in border plantings, and the soft colors mix well with other perennials and annuals. Some plants have been perennials even during severe winters in my College Station garden. They survive well during periods of low rainfall but flower best when moisture is more abundant.

Insects and diseases have not been a problem. The large leaves are sometimes made unsightly by grasshoppers or caterpillars but the plants seem to persist. Cutting back old flower stalks, fertilizing and watering the plants after the first flush of blooms can hasten rebloom and make plantings much more attractive. Nicotianas can be spectacular when in full bloom and deserve wider use.

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# Raised-Bed Gardening

By Sam Cotner  
Extension Horticulturist

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**I**n raised-bed gardening, the planting surface is elevated to a predetermined height. You can do this several ways. Perhaps the easiest method is to simply mound up garden soil (about 6 inches), allowing the sides to slope gently to the ground. These are nonpermanent beds, and as the growing season progresses, they shrink as rain erodes and compacts the soil. Thus, this type of bed is ideal for annual plantings in the home garden since it does not interfere with fall or spring soil cultivation.

If you want to elevate a bed more than 6 inches or if the bed will be used to grow perennials, you'll need a more permanent bed. The most common permanent raised bed is one that has four built sides (but no built top or bottom). Usually boards and railroad ties are used to build up the bed to the desired height, but layered rocks, cinder blocks or other strong materials also can be used. Prepare the soil beneath the bed before placing side structures on the ground.

**Soil** - Soil in raised beds should be friable (crumble easily). A good soil mixture for raised beds is one part organic material (such as peat moss, compost, leaf mold or dehydrated cow manure), two parts topsoil and one part perlite, vermiculite or sharp sand for drainage. You can use a water soluble fertilizer throughout the season or incorporate a slow-release fertilizer such as osmocote into the soil mix. Fertilizer rates should be determined by soil test results and which crops you grow.

**Planting** - You can plant raised beds in several ways. You may want to have one to three conventional rows of plants running parallel to the raised bed, depending on the width of the bed and size of the plants. Or, you can plant more intensively as with wide row planting and square foot gardening -- that is, plant each seed or plant an equal distance from every other plant. All plants should be at least 6 inches from the side of the bed to prevent root drying and exposure. Plant large crops, such as melons, in one central row with each plant centered in the bed.

## **Weighing the Advantages and Disadvantages of Raised Beds**

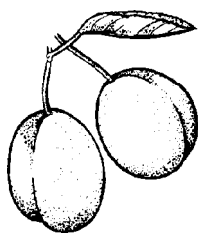
Probably the biggest advantage of raised beds is improved soil drainage. Raised beds are particularly useful if you have a garden that doesn't drain well because of heavy clay soil or because it is in a low lying area. In addition, in an extra damp area, plants that don't like having "wet feet" -- such as okra, kale and gourds -- grow well in raised beds. Raised beds also benefit "root" crops grown on heavy soils, such as beets, onions, potatoes, radishes, rutabagas, turnips and, especially, carrots.

Another advantage of raised beds is that they allow you to plant under less than ideal conditions -- such as around some trees (check species for tolerance). Tree roots can be a real obstacle to bed preparation, so raised beds let you plant your flowers without any trouble. Raised beds also can add an attractive touch to your landscape. Finally, they can offer gardening access to persons who otherwise would be unable to participate in this activity.

But raised beds have their disadvantages, too. Perhaps the biggest disadvantage of raised beds is their tendency to dry out. Beds may require more than twice as much water per week as conventional plantings, depending on the height of the beds and soil texture.

Raised beds are not recommended for sandy soils, because the soil dries out fast, and beds wash away quickly unless they have permanent sides. However, proper mulching can help alleviate these droughty conditions.

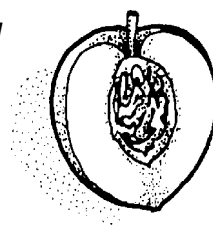
Another disadvantage of raised beds is that they can be more work to prepare and maintain than conventional garden arrangements. Thus, you should carefully weigh the advantages and disadvantages of raised beds for your particular situation.



## Plan Your Peach Thinning Program Now

By Calvin G. Lyons  
Extension Horticulturist

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**N**ow is the time all growers should be evaluating their peach crop and planning the thinning program. This all important practice is often carried out without careful planning to effectively maximize their income. A little time spent mapping out the proper thinning program can, in some cases, double the per acre income. Georgia budgets estimate a cost of \$170/acre to thin so producers must get the maximum benefit.

### Thin Early Peaches First

Most early season peaches mature in a very short time. For thinning to do much more than prevent limb breakage it should be done as early as practical. It has been demonstrated on several occasions that bloom thinning will increase fruit size up to ¼ inch over fruit removal at 30 days past bloom. Every fruit grower knows how much more 2 inch and up peaches are worth than 1-inch peaches are. Bloom thinning is the most expensive thinning we do, but for some varieties often it makes the difference in profit and loss.

### Thinning Later Season Peaches

Peaches that mature late in the season and traditionally make adequate size can be thinned at 4 to 6 weeks after bloom and still make marketable fruit. Going longer than 6 weeks results in little benefit. Always remember that the earlier the fruit is removed the more benefit it has. Size and quality are the two factors that influence our prices the most, and all management practices should be toward producing the proper size and quality to maximize profit.

### How to Thin

While a great deal has been written about the best way to thin, each producer must fit the method into his own program. The following are merely guidelines to aid them in making the choice.

Bloom thinning is usually the most expensive and beneficial in terms of size. Toilet brushes are used

to rub the small bloom off. Hand removal of the small fruit at 4 to 6 weeks after bloom is the next most expensive method of fruit thinning but is the safest and most accurate since it is done after frost danger, and very precise fruit removal is possible.

Many aids are adopted by the growers to speed up hard thinning; these include rubber hose, limb bump and others. All increase speed and slightly decrease precision. The decreased cost usually justifies these practices because little quality is sacrificed.

Mechanical thinning by either trunk or limb shaking when the fruit have attained adequate size has proven very effective here in Texas. Some producers feel that it removes too much fruit, too little fruit or only the largest fruit. As with any machinery, these shakers must be carefully used to do the best job possible and not cause damage. This method is very acceptable and much less expensive when used correctly. In some cases, this is the only practical method of thinning large acreages in the short time allotted.

### Chemical Thinning

For many years research and extension workers have been looking for chemical thinners like those used on apples. To date none has proven successful although two different companies are now requesting labels for thinners.

One, an ethylene release compound that is to be used when the embryos are 11 mm in length, has looked very good in South Carolina and Georgia. It is very rate sensitive, and timing is most critical on this product or results are variable.

The second material is a nitrogenous compound that we were researching as a bloom thinner in Virginia. This material when applied at 90 percent full bloom resulted in quite impressive fruit size and tree responses. We intend to look at both of these products here in Texas this year, and in the next few years we hope to have a chemical thinner to use on peaches.

## Screen Plantings

By John Cooper  
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Landscapes and gardens will soon come to life as more spring-like weather arrives and people begin to enjoy the great outdoors again. Having beautiful natural surroundings enhances the quality of life, reduces stress and gives rest to the urban dweller.

A well-designed landscape establishes a pleasing sense of order. Living and moving in a landscape which the eye can conceive as a unified whole gives a satisfying feeling of comprehension and completeness.

One way to establish order and break open ground into usable outdoor living areas is to establish screens. Screens can be used to create enclosures which provide a sense of intimacy and perhaps a special place for a flower garden. Privacy is another common reason to use screening as well as to buffer noise, heat, glare, or wind, or maybe just hide an unsightly view.

Screens can be created instantly with fencing. Wooden fences are probably the most common type of screening device. As a "privacy" fence, attractive wooden fencing need not be fully enclosed, but panels can be set wherever needed to achieve the desired baffling. Sometimes a single 8-foot section panel is all that is required to achieve the desired effect.

A living screen can be established in three years by trellising a climbing evergreen vine. Any number of materials can be used to trellis vines, but cattle panels or hog panels will last forever and be as sturdy as anything you ever want to support. The less expensive concrete reinforcement wire is also commonly used with good success, although it may sag and weaken with rust.

Wooden posts should be set in concrete to stave off rot. Metal posts should be set in concrete to anchor them firmly in the ground. As vines grow and age, they can become quite heavy, so well-set posts are essential for adequate support of the trellis. Resetting posts in a trellis with an established vine is quite difficult at best.



The top three evergreen vines to run on trellis in our area are crossvine, *Anisostichus capreolata*, Hall's honeysuckle, *Lonicera japonica* 'Halliana,' and Carolina jessamine, *Gelsemium sempervirens*. Although each prefers full sun, they will tolerate shade. Crossvine and Carolina jessamine are native to Texas while Hall's honeysuckle is an introduced species from Asia.

All three vines do equally well here, and each will cover an 8-foot trellis in three years. Vines can grace a single post or planted at intervals of 3 feet and provided ample support, can screen an entire yard.

Shrubs are often used for screen plantings as well. Virtually any well-adapted evergreen plant of suitable size will do. Six-foot screening shrubs include Texas sage and glossy abelia.

Nandina and dwarf Burford holly make good 7-foot screens. Ebbing's silverberry makes a good

10-foot screen; red-tip photinia, 15 foot; Chinese photinia, 20 foot; Southern wax myrtle, 20 foot; Burford holly, 20 foot; yaupon holly, 20 foot; Japanese black pine, 25 foot; Canear juniper, 30 foot; Austrian pine, 40 foot; and Leyland cypress, 40 foot. All of these are very hardy species in our area and tolerate a wide range of soil conditions.

# Training Pecan Trees

By George Ray McEachern  
Extension Horticulturist

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**P**ecan trees growing as natives along the rivers and streams of the Central United States and Mexico almost always have a distinct central leader. This is the normal type of trunk which developed over millions of years of adaptation. As a nut falls to the ground or as a nurseryman plants a seed, the young tree grows through three distinct growth phases which insure the development of a central leader trunk.

First, the seedling goes through a “juvenile” phase where apical dominance strongly prohibits the growth of any side shoots on the stem. The bark is smooth, leaves are covered with very short fuzz, and the edges of juvenile leaves and young stems are reddish in color. Small juvenile trees do not bear nuts; their genetically controlled growth objective is to develop a central leader tree with more roots than shoots and no nuts.

A seedling tree can remain in the juvenile phase for up to 15 years with all of the characteristics of a juvenile. With time, the juvenile tree will grow into the second or intermediate phase. This is when the young tree will begin to bear some nuts and have some lateral branching. The final or “adult” phase is the most common type of pecan tree we recognize. It is characterized by fruit production, the bark is rough, the leaves are slick without fuzz, and the limbs branch readily.

Seedling pecan trees which are genetically developed through the juvenile and intermediate phases before becoming bearing adults do not require central leader trunk training because a central leader will develop naturally. However, when we as horticulturists, nurserymen and growers take an adult bud out of the top of a bearing tree and graft it onto a small nursery seedling tree, all growth developing from the graft will always be adult and will grow exactly as adult shoots grow in the top of trees. Therefore, nursery trees grafted with adult buds must be trained into a central leader; otherwise, the tree will have multiple trunks.

Why do we need central leader trees? There have been and still are many pecan growers who prefer multi-trunked trees over the central leader trees. The late O.S. Gray was one of the strongest advocates of the multi-trunked tree. He simply felt it was too much work to train a tree into a central leader. The multi-trunk tree can bear pecans earlier than the central leader tree, and this is why some still like the untrained tree.

With intensive pecan orchard establishment including good soil, productive varieties, chemical weed control, frequent foliar zinc sprays, frequent nitrogen fertilization and central leader trunk training, yields as high as 1,000 pounds per acre in the seventh year are possible. Therefore, one should not think central leader training will reduce yields; it increases yields later in the tree’s life.

The central-leader-trained tree is stronger than the multi-trunked tree. When two or three trunks develop at the same point, bark is trapped between the trunks preventing a wood bridge from developing. As the tree increases in size, the included bark with no wood connection becomes very weak. With rain, wind and a heavy crop, the trunks will split out. Some varieties such as ‘Wichita’ and ‘Desirable’ develop weak “V” trunks more than others and must be trained into a central leader to prevent the tree from splitting apart year after year.

The central-leader-trained tree will not crowd as fast as multi-trunk trees. Tree crowding is a very serious problem in pecan production. As trees reach their peak in production and quality performance, it is very difficult to remove them. One or two extra years of full production without thinning is very valuable and more than compensates for a few pecans the first or second year of production or for the labor cost of central leader trunk training.

*(Continued on Page 8)*

# Ground Covers

By Ted Fisher  
Travis County Horticulturist

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**W**hat's green and hugs the ground? Ground covers. Whether it's a span of lush and lovely lawn grass, or a low sprawling vine, these plants are popular with gardeners. There are a host of plants that grow in areas where grass is unsatisfactory. We call these plants ground covers.

Perhaps you are faced with a landscape problem: a steep slope, heavy shade, a dry location, or perhaps you are just looking for an alternative to the beautiful, though sometimes monotonous expanse of continuous turf. In any case, ground covers can be the solution.

Texas nurseries report increasing interest in ground covers. Landscape architects, long advocates of ground cover use, have awakened an interest in nearly every gardener.

Parks, industrial landscapes, shopping centers, and other large-scale landscapes use ground covers by the thousands. Although Texas gardeners cannot enjoy the array of ground cover plants adapted to areas such as Southern California, there are many interesting and attractive types that can be used here. Here is a list and brief description of some of the best:

\***English ivy:** Dark green evergreen vine. Tolerates heavy shade to moderate sun. Grows to 10 inches. Many varieties available.

\***Algerian ivy:** A larger leafed cousin of English ivy. Beautiful glossy green foliage that prefers moderate shade. Very aggressive.

\***Ajuga:** Low growing (6 to 8 inches) evergreen plant with clumpy growth. Neat, compact, aggressive. Green or bronze foliage, generally blue flowers. Best in shade.

\***Vinca major:** Trailing evergreen vine with scattered

blue flowers. Good in shade. Very vigorous grower.

\***Liriope:** Clumpy evergreen plant with grasslike foliage. Blue or white floral spikes in the summer. Several varieties.

\***Monkey grass:** A small leafed cousin of the liriopes. No conspicuous flowers, aggressive. Adapted to sun or shade.

\***Asiatic jasmine:** Robust evergreen sprawling vine for full sun or partial shade. Probably the best all around ground cover plant for all except for North Texas.

\***Potentilla:** Lovely light green foliage. Single yellow flowers appear throughout the growing season. Very quick covering. Fine for sun or shade.

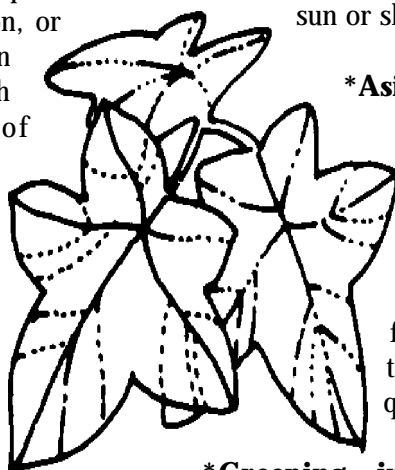
\***Creeping junipers:** Many low growing forms available. Common for rock gardens, near patios, or in other hot areas. Require full sun.

\***Honeysuckle:** Trailing vine that is excellent for rough areas, difficult slopes, and dry areas. Fragrant flowers in spring.

Many other low growing plants, such as sedum, santolina, lantana, and holly fern, also make excellent ground covers.

Ground covers, once established, require very little care. However, proper soil preparation is a must. Till or spade the soil deeply, mixing in liberal quantities of peat moss, compost, or other organic materials. Rake thoroughly and carefully to remove johnsongrass and bermudagrass roots and runners.

Within a year your ground cover should be established and well on its way to providing you with years of low maintenance, utility, and beauty.



# Garden Checklist for April

By William C. Welch  
Landscape Horticulturist

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1. Prune spring flowering shrubs soon after flowering. Keep the natural shape of the plant in mind as you prune, and avoid excessive cutting except where necessary to control size.
2. Roses have high fertilizer requirements. For most soils, use a complete fertilizer for the first application just as new growth starts, then use ammonium sulfate or other high nitrogen sources every 4 to 6 weeks, usually just as the new growth cycle starts following a flowering cycle.
3. Climbing hybrid tea roses may be pruned as soon as they complete flowering.
4. Removing spent flowers, trimming back excessive growth, and applying fertilizer to an established annual bed can do wonders towards rejuvenating and extending the life of the planting.
5. As soon as azaleas have finished flowering, apply an acid type fertilizer at the rate recommended. Don't over fertilize, as azalea roots are near the surface and damage can occur. Water thoroughly after fertilizing.
6. Seeds of amaranthus, celosia, cosmos, marigold, portulaca, zinnia and other warm season annuals can be sown directly in the beds where they are to grow. Keep seeded areas moist until seeds germinate. Thin out as soon as they are large enough to transplant. Surplus plants can be transplanted to other areas.
7. For instant color, purchase started annual plants. Select short, compact plants. Any flowers or flower buds should be pinched to give plants an opportunity to become established.
8. Check new tender growth for aphids. A few can be tolerated but large numbers should be controlled. Always follow label instructions on approved pesticides for control.
9. Many flower or vegetable seeds left over after planting the garden can be saved for the next season by closing the packets with tape or paper clips and storing in a sealed glass jar in your refrigerator.
10. Start weeding early in the flower garden. Early competition with small plants can delay flowering. A mulch will discourage weed growth and make those that do come through easier to pull.
11. Soil purchased for use in beds, low areas, and containers should be examined closely. Often nut grass, or other weeds, nematodes and soil-borne diseases are brought into the yard through contaminated soil sources.
12. Watch newspaper and other publicity for information regarding wildflower trails, and plan to take a trip to enjoy this beautiful natural resource.

***(Training Pecan Trees - Continued from Page 5)***

Central leader trees, because of their shape, capture more sunlight. The central leader tree is easier to shake for harvest. Central leader trees have fewer large limb scars and are damaged less by trunk shakers.

**The “Cut Back and Select” method.** The conversion of a multi-trunk small nursery tree into a central leader tree through pruning and training is not an easy process. The tree needs to be growing very rapidly in order to select and train the central leader. Therefore, before training can begin, the young tree needs to be growing fast and under an intensive management program.

Cut last season's growth in half each January or February during the tree's first four or five years. In May or June, when growth is rapid, one central leader shoot is selected and all others are removed from the top of the small tree. By selecting one shoot in May, most of the tree's growth will go into the central leader. By cutting the previous year's growth in half in February, apical dominance is lost and more side shoots than normal will develop. The side shoots will be allowed to grow on the trunk until they are 1 inch in diameter. If they are removed before this, the photosynthetic production of food is reduced. Or, if the side shoots are allowed to grow after they are more than 1 inch in diameter, the central leader shoot will not grow to its full potential.

**New Planting Establishment  
Video Now Available**

**Extension Horticulturist Larry Stein and the Department of Agricultural Communications at Texas A&M University have just released a new video titled Pecan Planting and Establishment which includes site preparation, planting weed control, irrigation, nitrogen fertilization, frequent zinc sprays and central leader trunk training by the Cut Back and Select Method.**

**The video is available for \$10 from the following address: Pecan Planting and Establishment Video, Extension Horticulture, Texas A&M University, College Station, Texas 77843-2134.**

Horticultural Update is published by Extension Horticulture, Texas Agricultural Extension Service, The Texas A&M University System, College Station, Texas.

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