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Florida Subtropical Peaches: Production Practices[1]

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Introduction

Production practices for Florida subtropical peaches include nursery practices, site selection, orchard design, planting, tree training and pruning, fruit thinning, insect, disease and weed control, and fertilization. Given the early harvest and long post-harvest tree growing season, Florida production practices differ from those used on fruit further north. The objective is to discuss Florida peach production practices from nursery to post-harvest orchard management within the framework of a monthly production calendar.

Nursery Practices - Rootstocks

Nursery practices for Florida peaches, nectarines, and plums (stone fruit) have general similarities to those used for other tree crops in that the desired fruit cultivar is grafted or budded onto a rootstock plant. However, unlike citrus trees which can be grown on different rootstocks with resistance to different pests, diseases and environmental conditions, Florida stone fruit should be grown on only one currently recommended rootstock, 'Flordaguard' peach rootstock, which can be used for peaches, nectarines, and plums. This rootstock is resistant to *Meloidogyne floridensis* as well as to other root-knot nematodes. Other Florida peach rootstocks used in the past, but not now recommended are 'Nemaguard', 'Nemared' and 'Okinawa'.

'Flordaguard' is a red-leafed peach rootstock, released by the University of Florida in 1991 (Figure 1). It is recommended for low-chill peach production in root-knot nematode infested, non-alkaline soils. Iron deficiency symptoms are commonly found under alkaline conditions (a pH greater than 7.0) in calcareous soils (containing calcium and magnesium carbonates). Iron chelates may alleviate this condition. 'Flordaguard' has a chilling requirement of about 300 chill units, and can be grown by nurseries in central Florida. Full bloom usually occurs February 10-15 in Gainesville, Florida, with dull red fruit ripening in late June, about 130 days after bloom. Trees are precocious, capable of fruiting the second year and produce many flower buds. Flowers are self-fertile and trees have long whippy growth that must be supported to bear heavy crop loads.

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Site Selection

Site and cultivar selection rank as the two most important factors in successful peach production. In selecting a site, avoid low areas which are often subject to late spring frosts. Even in central Florida, critical temperatures for fruit kill can occur in February and March in cold locations.

Peaches can be grown on a wide variety of soils, provided there is good internal drainage in the upper 4 to 6 feet of the soil profile. Avoid soils with "hardpans" unless an excellent system of subsoil drainage tiles is provided. Note that flooding damage has occurred on normally well-drained soils of heavy texture during exceptionally wet summers in northern Florida, especially during the hurricane season.

The deep sandy soils of the Central Florida Ridge provide good drainage and are ideal in peach production. Peaches grown on flatwoods soils should be planted on raised beds. In the Indian River Production area and other flatwood sites with high water tables, citrus trees have a 2-3 foot rooting depth. Peach trees are more sensitive to standing water than citrus trees, but have grown well on flatwoods sites where adequate drainage is provided.

Good air drainage is also important for reliable fruit production, especially when growing low chill cultivars in areas with higher chilling hours. Lower chill cultivars like 'Tropicbeauty' may bloom in north Florida before the risk of late spring frosts has passed. Therefore freeze protection with overhead sprinklers may be needed.

If possible, avoid forested areas that may provide habitat for deer, raccoons, possum, and other animals that could damage peach trees and fruit. Although wild plum trees provide food for wildlife, plum curculio infests wild plum fruit and also infests stone fruit. If possible, remove wild plum trees in the nearby vicinity. Also, wild plums may harbor *Xylella fastidiosa*, a bacterium that is the causal agent of phony peach disease. Mushroom root rot can also be a problem if the planting site was previously forested, and is a major peach tree disease where peaches follow pecan or tung nut.

Overhead Irrigation for Freeze Protection

Peach buds, flowers, and fruit can be damaged by late spring frosts**.** Peach flower buds that have just begun to swell can withstand temperatures to about 20°F. Open blossoms show injury at about 26°F. Following petal fall, the young fruit generally are killed by minimum temperatures of 28°F. However, using overhead irrigation for freeze protection can prevent such damage (Figure 2).

The principle underlying the use of overhead irrigation for freeze protection is that heat lost from the trees is replaced by heat released as applied water turns to ice. As long as water is applied continuously at an adequate rate and is freezing, plant temperature will remain at or near 32°F. In more specific terms, when one pound of water freezes, 144 British Thermal Units (BTUs) are released. If the irrigation rate is not high enough, evaporative cooling may occur lowering plant temperature. Precipitation or irrigation rates needed for freeze protection at varying temperatures and wind speeds are listed in **Table 1**. Freeze protection with overhead irrigation is generally not recommended if wind speed is greater than 10 mph.

Orchard Layout

Traditional spacing of peach trees grown in Florida with an open center system has been 20 x 20 feet or 109 trees per acre/acre (**Table 2**). Trees have been planted at 10 x 20 feet (218 trees per acre) and 15 x 20 feet (145 trees per acre), with the expectation that a larger number of trees per unit area will result in increased yields per acre during the early life of the orchard. However, peach trees established at a 10 x 20 spacing have been more difficult to prune, thin, and harvest fruit than those planted at a 20 x 20 spacing. The 20-foot spacing between rows is generally needed for movement of equipment and other cultural practices. On lighter soils where trees are less vigorous, the 15 x 20 foot spacing has been satisfactory. All peach cultivars currently recommended in Florida are self fruiting and should be planted in solid blocks for easier spraying and harvesting. In contrast, plum cultivars like 'Gulfbeauty', 'Gulfblaze' and 'Gulfrose' require

cross-pollination, and individual cultivars should not be planted in solid blocks.

Planting trees

Historically, peach trees are planted as bare-rooted plants during the dormant season in December or as soon thereafter as possible so that new root growth can develop before spring shoot growth begins. June-budded trees 2 1/2 to 4 feet high are best.

In well-drained soils, plant trees slightly deeper than they were grown in the nursery. In flatwood soils, plant trees about the same depth they were grown in the nursery. Both bare root and containerized evergreen citrus trees are usually watered at planting to reduce transplant shock. Bare root peach trees are dormant at planting, have no leaves, and usually require little if any water at planting, except on very sandy soils. However, mudding in with water in the planting hole prevents air pockets and assures good root contact with the soil.

Some nurseries are now producing containerized trees that can be planted year round. Containerized peach trees with foliage should be irrigated at planting and trees mudded in to maximize root contact with field soil. With either bare root or containerized trees, planting from December to January allows the longest possible growing season the first year.

Trees that are planted early in the winter and kept free of weed competition will require minimal watering the first season. Irrigate at least once a week during the first year. However, more frequent microsprinkler irrigation, especially with liquid fertilizers, may maximize growth during the first year. Keep an area 3 to 4 feet out from newly-set trees free of weeds the first season. Plant middle strips with oats or rye, or leave middles with a natural sod cover for protection from blowing sand. Mow middles as needed. When trees are planted in single row beds, swale or ditch middles should be mowed rather than disked to prevent erosion and provide a smoother surface for equipment and worker movement.

Weed Control

Both mechanical and chemical weed control measures are used for proper orchard floor management. A recommended procedure is to apply herbicide to a strip down the tree row and mow the sod middles. For young, non-bearing trees the weed control strip should extend at least 5 feet on each side of the row (total of 10 feet wide). When trees are planted on 8-ft wide single row beds, maintain a weed-free strip about 2-ft wide on each side of nonbearing trees and maintain a sod cover on the rest of the bed to avoid soil erosion of the bed.

Fertilization

Prior to planting trees, apply and disk in liming materials as needed to bring soil within a pH range of 6.0 to 6.5. Dolomitic lime is recommended, especially on sandy soils if magnesium levels are low. Because of soil type variations, there is a distinct difference in the fertilizer recommendations for peaches growing in loamy peach soils predominantly west of the Suwannee river versus those growing on the sandy peach soils of peninsular Florida. It is suggested that mixed fertilizers for the western (heavier soils) area include 8-8-8 or similar materials. Fertilizers for the peninsular (sandy) area should approximate a 12-4-8 formulation. Currently recommended fertilizer rates are listed in Tables 3A to 3D). However, further research is needed to refine fertilizer practices for Florida peaches.

All fertilizers should contain 1% or 2% zinc oxide (ZnO) equivalent when used on young trees. Zinc may be supplied in the regular fertilizer program. If needed, zinc sulfate sprays (25 to 36 lbs in 100 gallons of water) can also be used to defoliate trees in December to induce dormancy and incidentally add zinc to the soil and for bark absorption.

Sandy soils are sometimes low in minor elements other than zinc. Boron, at rates of 5 lbs B_2O_3 per acre, and occasionally manganese, in sprays containing 0.75 lbs metallic manganese per 100 gallons have been needed to correct symptoms. In general, a balanced fertilizer with micronutrients should be used.

Heavier soils in the Florida panhandle will retain more nutrients than less fertile, sandy soils in central Florida from which nutrients can leach more readily. However, we have little research with which to interpret soil analysis and develop base recommendations for peaches in Florida.

Leaf analysis is recommended as a guide for fertilization. Samples should be taken from mid-shoot areas of average terminals in April through August. Based on limited experience, the leaf nutrient levels in Table 4 are suggested.

Irrigation

Irrigation of bearing trees is necessary to increase fruit size and yield and increases tree growth. Florida peaches ripen in late April and May when rainfall is usually low. Trees will probably need at least 1 acre inch of water per week -- from soil storage, rainfall, or irrigation -- for maximum fruit growth. Irrigations should be made before moisture stress becomes apparent. Irrigation rates from 1 to 2 inches every 10 days and more frequently in sandy soils are suggested, especially during the dry season.

Pruning

Pruning is necessary to form a well-shaped, strong tree, and to maximize production of high-quality fruit. Peach trees are usually pruned to an open-center system. One method of pruning, or training, calls for trees to be cut back at planting time to a single stem 15 to 20 inches high soon after planting. If lateral branches have formed on the nursery tree, cut the laterals off nearly flush with the stem if they are within 12 inches of the soil line. If lateral branches have already formed in a north-south and east-west direction, they can be left on and pruned back to 1 to 2 inches long or longer if desired. In other cases, after the tree initiates growth in early spring, select three or four evenly spaced, vigorous, wide-angled shoots to be the major scaffold branches, again between 10 and 20 inches from the soil surface. Remove or cut back other shoots and remove all low-growing suckers, including those from the rootstock.

In the first winter, cut back the main scaffold branches approximately one-third, so that lateral branches growing on the outside of the main branches will encourage a spreading growth habit. Water sprouts and limbs that are too low should be removed. Consider that the height of limbs selected to be scaffolds will affect the eventual height of the canopy from ground level. The tree canopy should be low enough to facilitate fruit harvest from ground level, but high enough for management practices like weed management, fertilization, and irrigation line maintenance. Continue this training procedure for the second and third winters. Bearing trees can be pruned in late December to early January. After the third winter, pruning consists of removing overcrowded branches, removing water sprouts, heading back terminal growth to prevent the tree from growing excessively, and keeping the center of the tree open to allow sunlight to reach all parts of the tree. In order to reduce excess fruit load, fruiting laterals need to be thinned and renewed depending on vigor, flower bud set, and cultivar habits. To promote lower tree flower bud development and tree height control, topping vigorous shoots and removing vigorous sprouts from the center of the tree in summer after harvest is advised.

Pruning is a time-consuming, costly operation. Along with thinning, it is one of the major production costs. Studies from other areas show 18 to 23 hours of labor per acre are required for pruning and 21 to 35 hours for thinning heavy crops. Other studies found that mechanical hedging, followed by some hand detailed pruning, can cut pruning time in half.

Thinning

Peach trees usually set more fruit than can be matured to marketable size, even when attempts are made to avoid excess cropping by careful pruning. To improve size and early ripening, thinning should be done as early as possible. Fruit should be thinned before pit hardening, leaving about one fruit on average about every 6 to 10 inches along the branches. Pit hardening can be determined by slicing young fruit in half to determine if the pit has begun to harden, usually before they are about the size of a marble or nickle. Thinning reduces total poundage, but profit depends on the price as it relates to fruit size. Determine the extent of thinning based on market demands and response of the cultivar to

thinning. Some growers thin blossoms during bloom when conditions favor heavy fruit set. However blossom thinning is not recommended because it may remove excess fruit before the danger of frost is past. Thinning fruit by hand is time and labor intensive, but can produce the best results. At present, no recommendations are available on the use of chemical sprays for thinning peach fruits under Florida conditions.

Harvesting and Marketing

Peaches are harvested when mature, but still firm enough to ship well. Ground color change from green to yellow is used to judge picking stage. Peaches for local markets can be picked more mature than those to be shipped long distances. A rapid increase in quality and size occurs during the ripening stage, and judgment is necessary to obtain maximum maturity while avoiding losses due to over maturity. Peaches with non-melting flesh maintain firmness and have longer shelf life than peaches with melting flesh.

Pick and handle fruit carefully to prevent bruising. Peaches do not mature uniformly on the trees, and therefore it is necessary to pick over the orchard three to four times at 2 to 3-day intervals in order to obtain fruit that have reached the right stage for harvesting.

Peaches must be carefully graded, sized, brushed, cooled, and packed for long distance shipment. This requires a sizeable investment in a packing house which is not likely to prove economically feasible with less than 50 to 150 acres. Growers having up to 20 acres may be able to sell by u-pick operations or at local markets without extensive packing. In such orchards, a succession of cultivars is essential. See the fact sheet “Florida Subtropical Peaches: General Concepts and Cultivars Recommended for Grower Trials” to select cultivars with different fruit development periods to ensure successive crop maturity dates for your area.

Another important consideration in harvesting and marketing is to plan cultivar plantings to insure use of harvest labor and packing facilities evenly over as long a period as possible. New cultivars are available to give a ripening succession in north and central Florida from late April through late May, and the future of Florida's industry will be primarily dependent on these and future cultivars.

One or more cultivars ripening together probably should not constitute more than 25% of the total acreage, assuming a harvest period of 7 to 10 days for a cultivar.

Peach Pest and Disease Management

Pests in Florida peaches and nectarines occur throughout the season and attack both the trees and fruit. The primary pests of peach fruit are plum curculio (north central and north Florida), stink bugs and Caribbean fruit fly (central and southern Florida). Occasional fruit pests include scarab beetles, thrips and nitidulid sap beetles. The major pests of the tree trunk and roots are the clearwing borers, the peach tree borer, which attacks the base and lower scaffold limbs of the tree, the lesser peach tree borer, which attacks scaffold branches, white peach scale and San Jose scale. Since systematic research on pest damage to stone fruit has not been widely conducted in south Florida, damage caused by other pests peculiar to that area may increase, requiring additional management.

In southern Florida, the Caribbean fruit fly has become a serious pest of the peach, and a malathion bait spray is showing promise for control of this pest. Curculio appears not to be a problem at present in southern Florida, but is the most serious pest of peaches in central and northern Florida where wild plums are common. At Gainesville, major egg-laying periods on fruit have ranged between March 1 and April 1. Egg-laying activity appears to be timed with the shuck split stage in wild plums (usually 15 to 20 days after full bloom). Sprays applied during early to after mid-March are generally effective, but should be modified with seasonal differences. Egg-laying is prolonged through the month of March if cool weather persists, and an additional spray may be needed.

Stink bugs are sucking insects that cause "catfacing" or "dimpling" of fruits from early season feeding and gumming. They also increase brown rot damage in mature fruit. Sprays may be needed prior to first leaf flush on early flowering cultivars. Use

insecticides at rates used for curculio. Where cultural conditions permit, some reduction in populations has been reported by eliminating legume cover crops such as peas, beans, crotalaria, and beggar-weed.

Borers are a problem throughout central and northern Florida. Uncontrolled populations ruin trees by severely girdling the branches or tree trunk at the soil line. The lesser borer attacks the tree framework at injuries or at large pruning cuts, and is becoming more important in Florida. The lesser peach tree borer lays eggs earlier in the season, has more life cycles per summer than the peach tree borer (at least two), and requires sprays as soon as possible after fruit harvest. Borers in dooryard trees can be removed by hand digging under gum spots in late summer and fall. Remove small white grubs which are the immature stages of the borer.

White peach scale, common throughout the state, occurs throughout the year and can kill both small and large branches. It has a wide host range and alternate host trees such as chinaberry and mulberry should be removed from areas within 200-300 yards of the orchard to reduce spread into the orchard. High numbers of white peach scale males give the trees a fuzzy snow white appearance. San Jose scale is a much smaller species that can cause more severe dieback of branches in a shorter period of time than white peach scale. Infested branches appear silvery and unthrifty. Scale should be controlled during dormancy by applying two applications of dormant oil prior to bud swell. Spray should be applied to wet down all limb and trunk surfaces. Hand spraying is usually more effective than speed spraying for oil sprays. Chemicals applied to control plum curculio and stink bugs may help manage scales, or in the case of pyrethroids, make them worse. Chemical sprays for borers after harvest usually suppress scale. Consult EDIS fact sheets on Insect Management in Peaches and White Peach Scale for more detailed information.

Diseases

Scab affects peaches in all areas of the state, causing small brown spots with a green halo on the skin of fruit. Sulfur sprays 4 to 6 weeks after full bloom are essential for control. However, the earliest cultivars ripen before spotting is very noticeable. Bacterial spot can be serious on 'Flordaprince' and 'Tropicbeauty' in some years, but is difficult to control. Many of the recently released cultivars have good resistance to bacterial leaf spot. Trees with good fertilization are less susceptible to bacterial spot than are under fertilized trees. Brown rot has not been a very serious problem on early peaches in central Florida, probably due to the characteristically dry climate in April and May. It can be quite serious in northern Florida during springs that have blowing rain and in the late-ripening cultivars grown for local use that typically reach maturity after summer rains begin. Peach leaf rust can be one of the more serious diseases in central Florida. Severe defoliation has occurred by midsummer in some instances and undoubtedly weakens the trees. Early fall defoliation can result in off-season bloom during fall and winter which reduces yield the following spring. In northern Florida, infection usually does not appear until late summer or fall, as it does in Georgia and South Carolina where the disease is considered of minor importance.

Mushroom root rot is a fungal disease often present in newly cleared areas where oak and hickory had been growing. This fungus has high incidences where peaches are planted in old pecan and tung nut land. There is no practical control, other than planting on sites relatively free of decaying oak or other hardwood roots. Peach trees wilt suddenly, usually starting about their third year in the orchard. Cutting through the bark at and just below the ground line discloses a thin white fungus growth between the bark and wood. This white growth may be visible on only one side of the tree or may completely encircle the tree. Mushrooms may also appear.

Phony peach, a systemic disease caused by a xylem limited bacterium, *Xylella fastidiosa*, occurs in all establish peach growing areas in Florida. It is introduced in nursery stocks, in infected budwood, or from wild hosts. The phony peach bacterium is found in wild plum trees in Florida, but causes no observable damage to these plums. When transmitted to the peach by leafhoppers, it causes tree dwarfing, distorted small fruit, and poor fruit production. Before planting peaches, remove or kill all wild plums within one quarter mile of the orchard where possible. As

already mentioned in the section on nursery practices, use T-budding rather than chip budding to propagate peach trees. Avoid using buds that contain woody material that may harbor this xylem limited bacteria associated with phony peach disease.

A production schedule for peaches and nectarines which can also be adapted for plums is listed in Table 6. Production practices may differ, from north central Florida, depending on pest and disease incidence and severity.

Figure 1. Flordaguard fruit and red foliage.

Figure 2. Overhead irrigation for freeze protection of peaches.

Figure 3. Containerized peach tree at planting.

Figure 4. Weed control within the tree row.

Figure 5. Lateral branches on nursery tree

Figure 6. Two-year-old tree with secondary lateral branching

Figure 7. Three-year-old tree with branches distributed around the circumference of the tree.

Table 1. Precipitation rate in inches per hour needed for freeze protection at varying temperatures and wind speeds

Temperature of an unprotected dry leaf °F	Wind speed in mph							
	0 to 1	2 to 4	5 to 8	10 to 14	18 to 22	30		
	Acre-inches per hour needed for freeze protection							
27	0.10	0.10	0.10	0.10	0.20	0.30		
26	0.10	0.10	0.14	0.20	0.40	0.60		
24	0.10	0.16	0.30	0.40	0.80	1.6		
22	0.12	0.24	0.50	0.60	1.20	1.80		
20	0.16	0.30	0.60	0.80	1.6	2.4		
18	0.20	0.40	0.70	1.0	2.0	3.0		
15	0.26	0.50	0.90	1.3	2.6	4.0		
11	0.34	0.70	1.2	1.7	3.4	5.0		

Source: Gerber, J. F. and J. D. Martsolf. 1965. Protecting citrus from cold damage. Univ.Fla Ext. Cir. 287.

Table 2. Open Center Peach Trees per acre at different spacings

Spacing between trees	Spacing between rows	Trees per acre
ft		
10	20	218
15	20	145
15	15	194
20	20	109

Table 3. Current Recommended Fertilizer Rates for Florida Peaches

Table 3A.		
	Soil type	
Application date	Sandy soils (central Florida) (12-4-8)	Loamy soils (North and West Florida) (8-8-8)
		Year 1
		Lbs mixed fertilizer
February	0.12	0.5
Late May	0.25	
June		0.5
July	0.50	
August		0.25 Calcium nitrate (15.5% N) or 0.12 Ammonium Nitrate (33 % N) Ammonium (33 % N) nitrate if nitrogen is leached during wet seasons
	0.87 lbs/tree/year or 93.96 lbs/108 trees/per acre/year or **11.27 lbs N; 3.75 lbs P_2O_5; 7.5 lbs K_2O**	1.25 lbs/tree/year or 135 lbs/108 trees/acre/year or **12.82 lbs N 8.64 lbs P_2O_5 8.64 lbs K_2O**
+ 1-2% zinc oxide in granular fertilizer for young trees. Apply fertilizer in the first year in a circular area 6 to 24 inches from the trunk.		

Table 3B. Year 2		
Application date	Sandy soils (central Florida) (12-4-8)	Loamy soils (North and West Florida) (8-8-8)
January	1-1.5	1-1.5
May	1-1.5	1-1.5
	216 - 324 lbs/acre/year or **25.9 - 38.9 lbs N**	216 - 324 lbs/acre/year or **17.3 -25.9 lbs N**

Table 3C	**Year 3**
January	30-40 lbs nitrogen per acre in mixed fertilizer as above
May (after harvest)	30-40 lbs nitrogen per acre in mixed fertilizer as above
August	20-30 lbs nitrogen per acre during August if wet conditions
	80 – 110 lbs N/acre

Table 3D	**Year 4+**
2-3 weeks before bloom	@ 33 lbs nitrogen per acre
Late May after harvest	@66 lbs nitrogen per acre
	99 lbs N/acre
These fertilizer rates are based on previous recommendations. However, higher rates may be needed to grow peaches successfully in Florida , especially on sandy soils. Long term fertilizer trials are needed to develop more current recommendations.	

Table 4. Leaf nutrient analysis levels in peach.

	Low Range	Optimum Range
	Percent of Dry Weight Basis (Values for Georgia from the 2006 Mgmt. Guide)*	
Nitrogen(N)	less than 2.5	2.6-3.00
Phosphorus (P)	less than 0.15	0.17-0.29
Potassium (K)	less than 1.0	1.10-2.00
Calcium (Ca)	less than 0.80	0.90-1.50
Magnesium (Mg)	less than 0.30	0.30-1.00
	ppm Dry Weight Basis	
Zinc (Zn)	less than 16	17-60 (15-50)

2006 Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide. http://www.ent.uga.edu/peach/peach_guide/title.htm

Peaches, Plums and Nectarines Growing and Handling for Fruit Market UC Cooperative Extension Publication 3331-1989.

Table 5. Production Schedule for Peaches and Nectarines

Monthly Production Practices for Florida Peaches According to Crop Development with approximate monthly dates included. See online 2007 Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide		
Dormant to Delayed (1-5% bud swell)	Fertilize 2-year-old young trees in *January*	Sandy soils : 1 - 1.5 lbs/tree (12-4-8) Loamy soils : 1 - 1.5 lbs/tree (8-8-8)
	Fertilize 3-year-old trees in *January*	30-40 lbs N/acre mixed fertilizer
	Train newly planted young trees	
	Complete winter pruning	
	Fertilize newly planted young trees in *February*	Sandy soils: 1/8 lb/tree (12-4-8) Loamy soils: 1/2 lb/tree (8-8-8)
	Fertilize bearing trees in February	1/3 of 80-100 lbs N/acre/year in mixed fertilizer 2-3 wks before bloom
	Train newly planted trees	Select three evenly spaced, vigorous, wide angled shoots 18-32 inches from soil surface
	Spray for scales from about *Jan.1 to Feb. 15*	Spray 1.5 to 3% dormant oil. Use lower ratio to avoid phytotoxicity. Avoid oil after 5% pink bud stage.
	Sample in *February to April* for ring nematodes	

Table 5. Production Schedule for Peaches and Nectarines

Monthly Production Practices for Florida Peaches According to Crop Development with approximate monthly dates included. See online 2007 Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide		
Petal fall to shuck split to shuck–off to fruit set @ March 8-April 10	After fruit have enlarged to split the shuck ring (shuck split), spray for plum curculio and brown rot from about *Feb. 20 to March 31* and again from 10 days to 2 weeks after the above dates	Imidan/Captan or Malathion or other recommended insecticide
	Monitor/Spray for bacterial spot	Spray cooper materials at reduced rates as crop develops.
	Monitor for leaf rust in Central Florida	
	Monitor/spray for plant bugs	
	Apply herbicide	
	Thin fruit before pit hardens	Thin 6-10 inches between fruit. During extended bloom thin several times.
	Order trees now for winter planting	
	Plum curculio (esp. central, north FL) egg laying about 15-20 days after wild plums bloom	Pyrethroid sprays applied late March effective but should be seasonally timed. Cover spray when curculios emerge and 10 days to 2 weeks later.
	Monitor for leaf rust in Central FL	
Harvest	Harvest Fruit	
	Harvest all fruit and remove fallen fruit to prevent Carib Fly pupating (Central FL)	
	If flies found, begin weekly bait sprays	
	Mid-April: Scale crawlers active	
	Bacterial Spot (Flordaprince, Tropic Beauty susceptible)	Spray cooper materials at reduced rates as crop develops. Note that copper sprays can cause defoliation if applied to foliage at improper rates.
Post Harvest	Fertilize newly planted young trees	Sandy soils: 1/4 lb/tree late May (12-4-8)
	Fertilize 2-year-old trees	Sandy soils : 1 - 1.5 lbs/tree (12-4-8) late May Loamy soils : 1 - 1.5 lbs/tree (8-8-8) late May
	Fertilize 3-year-old trees	30-40 lbs N/acre mixed fertilizer late May or after harvest
	Fertilize older trees	2/3 of 80-100 lbs N in mixed fertilizer late May or after harvest
	Continue insect/disease sprays if needed	
	Fertilize newly planted young trees	Sandy soils: 1/2 lb/tree July (12-4-8) Loamy soils: 1/2 lb/tree July (8-8-8)
	First spray for leaf rust before rainy season (Central FL)	
	Monitor for bacterial leaf spot	
	Summer prune tree center and low branches of bearing trees	
	Mid-June: Scale crawlers active	
	Monitor/Spray for peach tree borers after harvest	Use handgun sprayer rather than an airblast sprayer for good coverage at base of tree
	Through coverage of trunk and lower scaffold limbs is necessary	
	Begin foliar sprays for leaf rust (June to October)	Alternate, Abound, Elite and Nova for leaf rust.

Table 5. Production Schedule for Peaches and Nectarines

Monthly Production Practices for Florida Peaches According to Crop Development with approximate monthly dates included. See online 2007 Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide		
	Fertilize newly planted young trees in *July* Monthly sprays for leaf rust (Central FL) Monitor/Spray for bacterial leaf spot in August Complete summer pruning	Sandy soils: 1/2 lb/tree in July (12-4-8)
	Sample in *Sept.-Oct* for root knot and root lesion nematodes	Pre-plant soil fumigation if necessary at least 6 to 8 weeks before planting. Refer to the current Southeastern Peach, Nectarine and Plum Pest Management and Culture Guide for more information.
	If trees have not dropped leaves and become dormant by *mid-December*, apply zinc sulfate to cause defoliation White peach and San Jose scale overwinter on trees. Apply dormant oils sprays after defoliation for best coverage.	10 pounds zinc sulfate in 50 to 100 gallons of water Apply dilute oil sprays (2-3% concentration) at 125 gallons/acre for mature, fully dormant, trees. Temperatures that are consistent and cool are optimal for oil application. Avoid oil sprays if temperatures are expected to drop near freezing or be unseasonably warm. Reduced concentrations (1-1.5%) are suggested if early winter or delayed dormant application are made Do not use oil after 5% Pink bud.