ILLINOIS

Fruit Calendar

FOR GROWERS OF

Apples

Peaches

CULAR 1172 · UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN
LLEGE OF AGRICULTURE · COOPERATIVE EXTENSION SERVICE
COOPERATION WITH ILLINOIS STATE NATURAL HISTORY SURVEY

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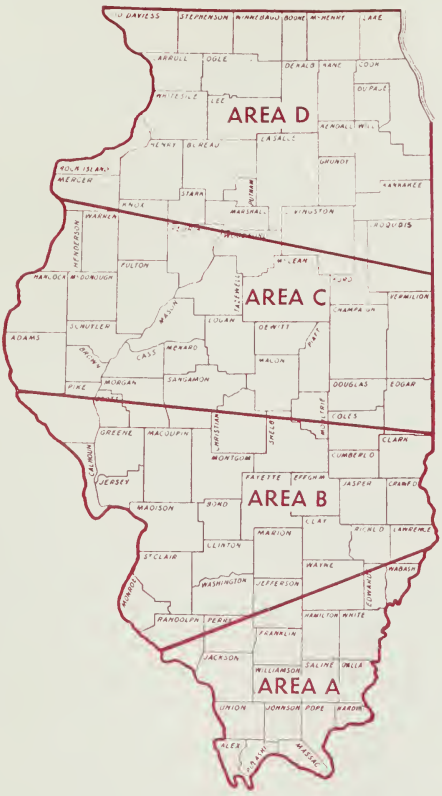
HOW TO USE THIS CALENDAR

This calendar has been prepared to help you keep up with the weekly changes in your apple and peach orchards. It tells what insects and diseases will probably need control at a particular time. It also indicates the proper times to thin fruit, prune, fertilize, and perform other orchard practices.

The information is given in numbered paragraphs on pages 5 to 11. To apply the information to your situation, first find out from the map which area you are in. Then, on page 4, find the paragraph numbers that are listed for your area and for the time you are concerned about. Suppose, for example, that you live in Calhoun County and are therefore in Area B. For probable developments during the first week of April, you should read paragraphs 7 and 8, pages 5 and 6.



It is very unlikely that you will have to cope with all the pests described. If red-banded leaf roller has not invaded your orchard in the previous season, for example, you will of course disregard information on its development. On the other hand, if you have had a serious carryover, it is very important to know approximately when to expect the first brood.

Another thing to remember is that this calendar is based on an average year. With an unusually early or late spring, the events described here will come earlier or later than indicated. In any case, *the sequence should remain the same.*

The weekly Spray Service Report supplements this calendar. This calendar, for example, tells us that in Area A codling moths will lay eggs during the second week of May (paragraph 13). The Spray Service Report will tell us what approximate day this can be expected. To

get this report each week, contact the Department of Plant Pathology, 218 Mumford Hall, Urbana, Illinois 61801. You will be informed of current charges.

Two other publications giving helpful information are listed on the back cover of this circular.

Dates the Numbered Paragraphs Under "Weekly Suggestions," Pages 5-11, Will Apply in Your Area (See Map on Page 3)

Dates	Paragraphs that apply if you live in —			
	Area A	Area B	Area C	Area D
January	1	1	1	1
February 1–7	2	2	1	1
8–14	2	2	1	1
15–21	2	2	2	1
22–28	3	3	2	2
March 1–7	4	3	3	2
8–14	5	4	3	2, 3
15–21	5, 6	5	4	3, 4
22–31	6, 7	5, 6	5	4, 5
April 1–7	8, 9	7, 8	6, 7	6
8–14	10	8, 9	7, 8	6, 7
15–21	10, 11	10, 11	9	6, 7
22–30	11	11	9, 10	8
May 1–7	11, 12	11, 12	9, 10	9
8–14	13	12, 13	11, 12	10
15–21	14	13	12, 13	11, 12
22–31	15, 16	14, 15	14	13, 14
June 1–7	17	16	15	14, 15
8–14	18	16, 17	15, 16	15
15–21	19	18	16, 17	15, 16
22–30	20	18, 19	17	16, 17
July 1–7	21, 22	19, 20	18, 19	17, 18
8–14	22, 23	21, 22	20, 21	18, 19
15–21	24	22, 23	22	19, 20
22–31	25	23, 24	23, 24	21
August 1–7	26	24	24	22
8–14	27	25, 26	24, 25	22, 23
15–21	28	26, 27	25	23
22–31	28	28	26, 27	24, 25
September 1–7	29	29	28	26, 27
8–14	30	29, 30	29	28
15–21	31	31	30	29
22–30	32	32	31	30
October 1–7	33	33	32	31
8–14	..	..	33	32, 33

FOR FALL AND WINTER MONTHS, SEE "GENERAL SUGGESTIONS FOR ALL AREAS," PAGE 11

WEEKLY SUGGESTIONS

1. Check all trees periodically for mouse activity; put out bait where necessary.

2. Start pruning apples. As long as there is danger of very cold weather, confine pruning to small cuts on mature trees. Prune young trees later, when temperatures are not likely to be low. Collect wood for propagation and for whatever bridge grafting is necessary. Check for mouse injury.

3. Continue pruning. Heavier pruning can now be done with little danger of cold injury. Fertilizer can be applied to sod cover. Trees can also be fertilized. Plant trees any time the ground is suitable. For new trees, record all pertinent information such as dwarfing stock, nursery, rootstock, etc. Write for orchard record book. Locate sources of bees and of pollen for pollination later on.

4. Continue pruning. Lower the tops of trees that are too tall by cutting back to strong side limbs. Be careful not to cut so heavily that you chance sunscald damage. Cleft and splice grafting can be started now. To determine the population levels of aphids and mites, look for black, oval aphid eggs and smaller, red eggs of European red mites on the underside of twigs at rough places. Look for masses of orange-red mites under loose bark on trunks and in litter at base of tree. These are adults of the two-spotted mite. Look closely for live San Jose scale on trees where fruit was infested at harvest. Plant-spray oil is very effective on San Jose scale.

5. **Apples:** Prepare to put on dormant spray. Do not use oil if temperatures below freezing are predicted within 24 hours. Remove brush before spraying. If you have not fertilized trees, do so now. Apply herbicides (see Horticultural Publication H-659). **Peaches:** Apply a fungicide for peach leaf curl control.

6. **Apples:** Dormant to silver tip. There is still time for a copper spray on blight-susceptible varieties. All species of aphids begin hatching as the buds open. Red-banded leaf roller moths start emerging at this time. Complete ground application of fertilizer. **Peaches:** Late dormant. This is the last chance to apply a fungicide for peach leaf curl control. Start pruning peach trees.

7. **Apples:** Green tip. Red-banded leaf roller moths are at peak numbers. Look for egg masses on smooth bark of lower limbs. Aphid hatch is usually complete by this time. Scab control is most important. Start powdery mildew control on Jonathan. **Peaches:** Early to late pink bud. Tarnished plant bugs are attracted to blooms. Continue prun-

ing. **General:** Plate-budding, bark-grafting, and bridge-grafting can be done now. Remove prunings from orchard.

8. **Apples:** Half-inch green to tight cluster. Red-banded leaf roller egg-laying is at a peak. Fruit-tree leaf roller is hatching. Aphids are hidden deep in partly opened bud. Keep fungicide protection on foliage for scab control. **Peaches:** Late pink to early bloom. First curculio and stink bug adults are entering the orchard from winter quarters. As more blooms open, tarnished plant bugs increase, since they suck sap from the base of the flower. Oriental fruit moth adults are starting to emerge. Use fungicide for control of blossom blight (the first stage of brown rot disease). Pole thinning of blossoms may be started now, if needed. Continue pruning.

9. **Apples:** Tight cluster to pink (Duchess may be in early bloom). Arrange to move bees into the orchard at early bloom. Don't bring them in sooner. Aphids are reproducing and should be controlled before bloom. European red mite eggs are starting to hatch. Red-banded leaf rollers are still laying eggs and the first egg masses are hatching. Curculio may do damage now if population is high. Leaf miner moths are depositing eggs on the under surface of the leaf. Insert branch spreaders on young trees as needed. Start protection against cedar rust and powdery mildew and continue scab fungicides. If needed, apply first spray of urea or complete-nutrient fertilizer to foliage. If legumes are abundant on the orchard floor or adjacent areas, tarnished plant bugs may be present. Their feeding causes dimpling on fruit. **Peaches:** Full bloom to petal-fall. Tarnished plant bug is decreasing. Curculio and stink bug numbers are increasing. Use fungicide for brown rot blossom blight. Older trees may be severely pruned back (dehorned) if this is needed and if there is no crop. Continue pruning. **General:** Start T-budding. Place order for custom propagation.

10. **Apples:** Pink to early bloom. Hatch of first-brood red-banded leaf roller eggs is at a peak. Two- and four-spotted mites may be found on first leaves up the trunk. Most European red mite eggs have hatched. Start the first streptomycin spray on varieties susceptible to fire blight. Scab, cedar rust, and powdery mildew infections can still occur. With the first bloom, bring honey bees into the orchard. Do not bring bees in before flowers open. Use the equivalent of one hive per acre but place hives in clusters of five or six. **Peaches:** Petal-fall. Begin peach scab control. Curculio and stink bug are increasing. Tarnished plant bugs are dwindling in number but may still be causing cat-facing. First-brood eggs of oriental fruit moth are hatching. Complete ground application of fertilizer and pruning.

11. Apples: Full bloom to petal-fall. Red-banded leaf roller eggs mostly hatched. Watch for larval damage along midrib of leaves in center portion of tree. Spotted spider mites are dispersed over the tree. European red mites are beginning to lay eggs. Adult codling moths are emerging. Continue streptomycin for fire blight control. Do not use insecticides between first bloom and petal-fall. Thin fruit of summer varieties with chemicals. **Peaches:** Shuck-split. Curculio and stink bug are the main insects. Continue fungicides for scab control.

12. Apples: Petal-fall. Watch for curculio cuts on small fruit in the tree tops. Look for rosy colored aphids in curled leaves. The rosy aphid is especially damaging to fruit. Codling moth adults are now flying and should soon be laying first-brood eggs. Use streptomycin on blight-susceptible varieties. Continue fungicide protection against scab, powdery mildew, blotch, and rust diseases. Quince rust fruit infections can occur now. Where needed, use chemicals for thinning fruit on fall and winter varieties. If nitrogen is deficient, apply urea to foliage except on yellow varieties. **Peaches:** Shuck fall. Continue fungicides for brown rot and scab. Start control measures for bacterial spot. First-brood oriental fruit moth larvae have all hatched. Watch for dying or wilting of terminal leaves due to the boring of young larvae into the terminal stem. Continue control of stink bug and curculio. Lesser peach-tree borer moths are emerging and will soon lay eggs for a new brood; apply the first spray for their control now.

13. Apples: Calyx cups are closed on most varieties and it is first-cover time. Adult codling moth emergence is nearly completed. Eggs will be laid now with temperatures of 75° F. or higher at dawn or dusk. Most eggs for the first brood will be deposited on leaves adjoining fruit. Adult curculio population has reached a peak and a high percentage of the females are laying eggs. European red mites will rapidly increase in number with hot, dry weather. Populations may need to be suppressed until predatory mites become more numerous. First-brood larvae of the red-banded leaf roller will be half-grown on the tip leaves of new growths, especially in center of tree. Fruit-tree leaf rollers are about ½ inch long, on outer area of tree. Continue fungicides for control of blotch, scab, powdery mildew, and quince and cedar-apple rusts. Prune oozing cankers and early blight infections. Chemical thinning may be continued. Young trees, slow to start bearing, may be scored. **Peaches:** Shuck-off. Curculio control is important. Stink bugs are still prevalent but most deep cat-facing damage has already occurred. Oriental fruit moth injury may still appear. Continue scab control. Disk winter cover.

14. **Apples:** Carbaryl can still be used for thinning fruit. Control of scab, quince and cedar rust, and powdery mildew is important through this period. Using a magnifying glass, look for European red mites in the center and top of trees. Spotted spider mites may be developing on broadleaf weeds under the trees. If nitrogen is deficient, use urea on all except yellow varieties. **Peaches:** Close to June drop. Continue scab control. Oriental fruit moth larvae are completing growth and "flags" or dead terminal shoots are easy to see. Curculio and stink bugs are still prevalent. If peaches are loose enough, they may be pole-thinned. **General:** Order trees for spring delivery.

15. **Apples:** First codling moth eggs are hatching. Continue fungicide for disease control. Continue streptomycin on Jonathan, and prune infected shoots and oozing cankers. **Peaches:** Continue scab control sprays. Curculio activity is decreasing.

16. **Apples:** Cicadas may make their first appearance. Continue control for the apple diseases. Reevaluate populations of mites and the predators. Suppress mites with a miticide if necessary. **Peaches:** Stink bug feeding causes water-soaked areas and gumming and paves the way for brown rot infection. First-brood oriental fruit moths are emerging and will soon be laying eggs for a second brood. Continue control of scab and bacterial spot. Check if peaches can be pole-thinned.

17. **Apples:** Codling moth first-brood egg hatch is at a peak. Tiny, yellow San Jose and Forbes scale crawlers (nymphs) are emerging from mother scales. First-brood moths of the red-banded leaf roller are emerging to lay eggs for a second brood. Apple maggot flies are emerging from their winter quarters (the soil under the tree) in Areas C and D. They should start laying eggs in about a week. As soon as the litter (weeds) under the tree becomes dry, the spotted mites will migrate to the apple tree. Commonly, a vine that has reached a lower limb is an excellent avenue for mites to reach the tree. Alar-Ethrel may be applied on young trees to promote formation of fruit buds. **Peaches:** Forbes and San Jose scale crawlers are prevalent and spreading over the branches. Second-brood oriental fruit moth eggs are hatching. Continue fungicide for scab control to within 45 days of harvest. Start training trees planted this spring.

18. **Apples:** Second-brood red-banded leaf roller egg masses can be found on branches and upper leaf surfaces. Scale crawlers are still prevalent. Green apple aphids are building up on the terminal branches of new growth. Keep watch for an increase of mites. Apple maggot flies are laying eggs under the skin of the fruit in Area D. The flies are easy to see on leaves and fruits. Rust and mildew infections should no

longer occur. **Peaches:** Continue fungicide for brown rot control. During summer temperatures, bacterial spot will increase rapidly with each rain. Sprays should be no more than 10 days apart (see Circular 1073). Egg hatch of the second-brood oriental fruit moth is at a peak. Another scourge of new shoot dieback should appear soon.

19. Apples: Eggs of second-brood red-banded leaf roller are hatching. Early larvae of first-brood codling moth are leaving apples for pupation. Continue fungicide protection for late scab and summer diseases. In Area D apply Alar to McIntosh. **Peaches:** About the same as note 18. Most first-brood curculio larvae have left the fruit. The lesser peach tree borer should be laying eggs abundantly. Apply first spray for control of the peach tree borer and second spray for the lesser borer.

20. Apples: Second-brood red-banded leaf roller egg hatch is at a peak. Codling moth is between broods except for a few stragglers. Adults are now emerging to lay eggs for a second brood. Prune out fire-blighted twigs. **Peaches:** Second-brood adults of oriental fruit moth are emerging to start a third brood. Curculio larvae are pupating in soil. Continue control of brown rot.

21. Apples: Second-brood codling moth eggs are being laid. Apple maggot adults usually at peak numbers at this time in Areas C and D. Diseases to watch are bitter rot, sooty blotch, fly speck, and *Botryosphaeria* (bot rot). Lodi harvest about to start. Use Alar on Jonathan and Delicious varieties as desired in all areas. **Peaches:** Third-brood oriental fruit moth eggs are being laid. First-brood curculio adults are emerging and will feed about three weeks before starting to lay eggs for the second brood. Continue brown rot control.

22. Apples: Second-brood codling moth egg hatch. Reevaluate the population of mites and mite predators. Use a miticide if necessary. Young grasshoppers may appear in and around young plantings. Be aware of bitter rot development in Areas A and B. **Peaches:** Curculio adults are increasing for second-brood egg laying. Scale crawlers may be appearing on the fruit. Start harvesting early varieties. **Special Note:** Collect apple and peach leaf samples for foliar analysis.

23. Apples: Second-brood codling moth at peak egg hatch. Apple maggots continue to lay eggs. Third-brood red-banded leaf roller eggs are being laid in Area D. Watch for bitter rot in Areas A and B. Start folpet fungicide, where needed, for *Botryosphaeria* control. **Peaches:** Peak egg hatch of the third-brood oriental fruit moth. Egg laying of second-brood curculio has started. Curculio adults at peak activity. Continue brown rot control. See note 22 on foliar analysis.

24. **Apples:** European red mites usually reach a peak population by this time if not controlled. Spotted spider mites are well established on the trees. Undamaged leaves encourage mite development, so an increase in mite numbers can be expected any time. If predator mites are present in sufficient numbers, mite control is assured. Continue apple maggot sprays in Areas C and D. In Areas A and B inspect the orchard weekly for bitter rot, black rot, and *Botryosphaeria.* **Peaches:** Lesser peach tree borer is at a late peak egg hatch, and peach tree borer moths continue to emerge. This is the time for the third borer spray. Watch for brown rot. Redhaven harvest is starting.

25. **Apples:** Second-brood codling moth is dwindling; early second-brood larvae are leaving apples to pupate. Continue fungicide. In Area D make a final spray for apple maggot control. **Peaches:** Spray for brown rot control.

26. **Apples:** Late second-brood codling moth larvae are still prevalent. Diseases to watch for are bitter rot, sooty blotch, fly speck, and *Botryosphaeria.* **Peaches:** Fourth-brood oriental fruit moth eggs are hatching. This brood primarily attacks the fruit. Continue brown rot control.

27. **Apples:** Second-brood codling moth adults may be laying third-brood eggs. Apply chemicals to prevent fruit drop as needed. **Peaches:** Apply fourth spray for borers. Control of these insects may be lost if this spray is omitted. Harvest Elberta and Redskin.

28. **Apples:** Egg hatch of fourth-brood red-banded leaf roller is starting. This brood feeds on fruit and causes severe damage. Do not allow bitter rot to get started. Use chemicals to prevent fruit drop and to promote early ripening on fall and winter varieties, as needed. Spotted spider mites enter hibernation with the start of cool weather. European red mites are laying overwintering eggs on twigs. Control high populations to decrease damage during harvest and prevent large carryover. **Peaches:** Harvest Rio Oso Gem.

29. **Apples:** European red mite adults lay eggs until frost. Harvest Jonathan and Grimes Golden. Watch for mouse damage. Evaluate mouse population by number of runs and order bait for fall application. No spraying except for preharvest stick-on sprays.

30. **Apples:** Harvest Delicious and red sports.

31. **Apples:** Apply fruit stick-on sprays as needed.

32. **Apples:** Harvest Golden Delicious. Be sure to pick up all dropped fruit as the different varieties are picked. Dropped apples will reduce the effectiveness of mouse bait when it is applied.

33. **Apples:** Harvest Rome Beauty, Winesap, and similar varieties. Be sure to pick up the dropped fruit.

GENERAL SUGGESTIONS FOR ALL AREAS

September is the time to sow grass seed, timothy, wheat, rye, or similar crops for either a permanent or temporary winter cover.

After Harvest

Pick up drops and all rotted fruit and remove them from the orchard.

Treat for mice.

Collect samples for soil analysis and take to your county extension advisor.

Make fall applications of fertilizer before December 1 or before the ground becomes frozen.

Winterize your beehives, water pumps, tractors, trucks, and other machinery. On rainy days start machinery repairs.

Store all picking and packing equipment in a sealed or screened shed if possible.

Mend broken crates, ladders, and similar equipment.

Start your pruning program, making cuts smaller than your wrist and concentrating on all dead wood. When making larger cuts, leave 12-inch stubs as a safety measure against winter freeze damage.

During the Winter

This is a good time to apply limestone if the soil tests indicate it is needed.

Attend your horticultural meetings.

Watch for development of storage disorders in your stored fruit. Keep a constant check on the humidity and temperature of your storage facilities.

Read as much horticultural literature as you can find because orcharding is a very complicated business.

Now is a good time to look back over your records for the past growing season and also to evaluate your various efforts. This may lessen your mistakes in another year.

Continue pruning when weather permits.

TAKE A MINUTE or two every week to consult this calendar. It will keep you up-to-date on probable pest development in peaches and apples. It will also tell you when to thin fruit, prune, fertilize, and perform other orchard practices. Observe harvest restrictions on all spray materials.

For additional information see Illinois Extension Circular 1073, *Pest Control and Related Orchard Practices in Commercial Fruit Plantings,* including the annual supplement that presents current spray schedules; and Horticultural Publication H-659, *Herbicides for Commercial Fruit Crops in Illinois.*