



## ***Harvesting Almonds***

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This discussion covers information of special interest to those who have a few almond trees in the yard or who have a small acreage that will be harvested in a non-commercial fashion.

Almond harvest time is just around the corner. As nuts split and start looking good to us they begin to look good to other creatures as well. Birds, squirrels, and worm pests find them especially attractive and become more troublesome the longer harvest is delayed.

### **Avoid Damage**

The best means of avoiding nut damage is to harvest the crop before other hungry mouths beat you to it. Although they can be a problem earlier in the year, feeding damage from birds and squirrels greatly increases once the nuts have split. Worm pests include the navel orangeworm (NOW) and the peach twig borer (PTB). NOW is a dirty feeder--it leaves a lot of webbing and frass in the nut and will often destroy the entire kernel. PTB is a clean feeder and usually only feeds on the kernels surface.

Although both of these worms cause kernel damage, NOW is the more serious pest. NOW lives through the winter as a mature larva in old nuts that remain stuck on the tree. As temperatures warm up in the spring, worm activity increases. They normally have three generations per season.

The third generation usually begins around mid-August and continues through September, coinciding well with almond harvest. Harvesting early will help reduce worm damage.

### **When to Harvest**

Almonds are mature and can be harvested as soon as hulls are split and nuts can be easily knocked from the trees. At this time the hulls are still green and quite moist. Nuts don't have to dry on the tree in order to harvest. Our research has shown that almonds dry much faster when removed and spread on the ground than when left to dry in the tree.



***Almond ready to harvest at early hullsplit.***

### **How to Harvest**

On a small scale, nuts can be shaken from the trees by striking the limbs with a rubber mallet known as an almond mall. Nuts remaining can be knocked loose using a long pole (bamboo taped for strength often works well). Cleaning trees by poling can help reduce next year's worm damage while at the same time helping to recover more nuts with this year's harvest.

Nuts can be knocked on a smooth ground surface and raked up. If you have more than a few trees, knocking onto canvas sheets makes the job much easier. When spread out under the tree, sheets avoid much of the need for ground preparation and raking. They can be dragged from tree to tree until full and can then be picked up and dumped where nuts are spread out to dry.

### **Post-Harvest Handling**

Once early-harvested green nuts have been shaken from the trees they must be spread out to dry to prevent the development of mold. If wet nuts are left in a pile, bag or container, they will mold very quickly.

Nuts should be spread no more than one or two nuts deep on a firm surface where they can be easily picked up (patios, garage floor, deck). With our hot weather, they dry equally well in the sun or the shade. Protect them from ants and birds while they are drying.

The green hull can be removed either before or after drying if you'll be hulling the nuts by hand. Drying proceeds quicker and takes less space if the hull is removed first and it's often easier to remove the hull while it's still green. If a commercial huller is used, the nuts must be dry before hulls can be removed.

Once hulled and dried, nuts can be stored inshell or cracked out and stored as nut meats. In

storage they must be protected from worms and ants and kept cool and dry to preserve product quality.

Harvesting in a timely fashion will help greatly in avoiding worm, bird, and squirrel damage.

### **Minimizing Future Worm Problems**

Since navel orangeworm overwinters in nuts left behind in the trees, a thorough harvest reduces sites where NOW can make it through the winter. Further reduction in the overwintering NOW population can be made during the winter by knocking down old nuts and destroying them.

A neighborhood effort toward complete nut removal is the best approach since the larger the area cleaned the more effective you'll be in reducing NOW populations.

A neglected orchard or a few unharvested trees not only are of less benefit to their owner, they can hurt the conscientious efforts of surrounding neighbors. If a large number of unharvested nuts are left, NOW can build up to high populations. As moths emerge from overwintering nuts, trees are re-infested and you end up with wormy nuts once again!

When worm buildup from a neglected orchard spreads to a commercial grove nearby, the cost of worm damage to the neighboring almond grower can be substantial.

In small orchards or yard situations where traditional spraying and harvesting practices are not possible, timely complete harvest and a follow-up winter cleaning will go a long way toward making your almond production efforts a success.