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Orchard Floor Preparation for Mechanical Harvesting

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Esteban Herrera, Extension Horticulturist

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About 90% of all pecans in the southern New Mexico and El Paso, Texas, area are harvested by mechanical harvesters. The efficiency of these harvesters is directly related to the condition of the orchard floor at harvest time. The ideal situation is a short, uniformly-mowed turf that will hold pecans off the ground. To have a turf to harvest from, a permanent turf must be maintained in the orchard all season. From 20 to 30% of the orchards in the area have maintained turf. A maintained turf cannot be used in orchards until trees are well established. Grass, like weeds, will stunt the growth of young trees that are not fully established.

When preparing a clean-tilled orchard for harvest; the methods used during the season to control weeds and maintain a soil mulch must be done with cultivation tools that keep the orchard floor flat. The flatter the orchard floor is kept during the season, the easier it is to prepare in fall.

Clean-tilled orchards are usually disked between each irrigation. Most growers disk in two directions. Disking does a good job, but leaves the soil surface in rough condition. A drag of some kind should be attached behind the disk, or run as a separate operation, to smooth the floor after each operation. Adding a drag behind the disk is most economical. Spot treatment during the season with a fresno will keep the orchard floor flat, and will fill in any holes or tire tracks that might result from orchard spraying or other operations.

Final preparation should be done in late August or early September. After disking and dragging and filling depressions, the final step is to roll and pack the surface. This should be timed with the irrigation. After rolling the orchard floor, a light irrigation will help form a surface crust. If too much water is put on, the surface crust may crack and, in heavier soils, the cracks can be large enough to lose pecans during harvest. About a 2-inch irrigation flashed across the orchard will usually form a flat, hard surface. Do not drive equipment through the orchard after this operation. The tree shaker should be the first equipment to enter after rolling, watering and knocking down the borders.

Winter weeds may cause some problem between the time the floor is prepared and harvest. It may be necessary to apply a labeled postemergence herbicide. The spray boom should be long enough to reduce the number of passes through the field and keep the number of tractor tracks to a minimum. A better option is to use a preemergence herbicide. It can be applied during the packing operation just before the final watering or using higher rates herbicides can be soil incorporated (or sprayed on the soil surface) around June just after discing all existing weeds.

In turfed orchards, the operation is simpler. The main thing is to mow the turf at frequent intervals late in the season to hold down the amount of plant residue in the orchard. It may be necessary to level and pack some turf areas, especially next to the tree row where the turf is usually weak because of shading by the trees.

The cultural practices used to develop a good, hard clean surface are many and varied. There are as many combinations of disks, drags, fresnoes and rollers as there are pecan orchards. To produce a good pecan crop, every effort should be made to put them in the sack in good condition. The cleaner the pecans are when picked up, the more efficient the pecan cleaning plant will operate.

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