



MANAGING DUST AT HARVEST

Everyone involved in the growing and harvesting of California Almonds should be aware that dust affects all who are present at harvest, including workers, neighbors and the community. Follow these steps, based on Almond Board-funded research findings, to reduce harvest dust.

Start with a clean orchard.

Clean orchard floors make all dust management practices easier. Clean floors help you reduce suction fan speed on pickup machines. That can knock a lot of dust out of the process without losing harvest efficiency.

Plan your route.

Take every opportunity to blow dust back into the orchard using the tree canopy as a natural filter. Note that the trees and their canopies can help capture dust before it reaches roads and homes. Plan your passes and travel direction to direct dust away from roads, homes and sensitive locations such as schools, hospitals and day-care centers. If you are near a busy road, consider placing traffic signs to warn motorists of harvest activities.

Go low, but not too low.

Set sweeper heads to optimum level. Don't set heads any lower than is necessary to recover the crop. Often, wire tines can be set to as high as 0.5" off the ground and still do a good job sweeping. If set too low, the sweeping head will move an excess amount of dirt into the windrow, increasing dust from the pickup machine substantially.

Use wire tines.

If possible, only use wire tines on sweeper heads. Sweepers that use wire tines without rubber flaps can help reduce dust.

Avoid extra sweeper passes.

Use fewer blower passes when and where possible. One blower pass instead of three can reduce the amount of dust produced by half.





Fine-tune settings.

Often, extra attention to blower spout adjustment will help reduce dust from blower use. Adjustments that take into account changing field conditions help reduce dust compared to using one-size-fits-all settings. Adding a berm brush to sweepers may improve performance in some conditions.

Go slow.

Taking almond harvester ground speeds down a notch is a big help with dust reduction. A pickup speed of 1.5 miles per hour cuts dust by 50% compared to 3 miles per hour. Note how conditions change from orchard to orchard and from early to late harvest. Adjust ground speed to match conditions. In loose soil conditions, slower ground speed lets gravity do more of the work by separating dirt from the crop meaning harvester fans produce less dust.

Slow fans down, too.

Dialing back the rpms on harvester separator fans is another good way to reduce dust. Reducing separator fan speeds to the minimum needed for varying harvest conditions still allows you to harvest thoroughly and efficiently.

More tips for managing dust:

- If you are working with a custom harvester, talk over dust control practices before harvest. Discuss and agree beforehand on the expected balance of speed, productivity, and protecting workers, neighbors, and the environment from excessive almond harvest dust.
- Manage dust on unpaved roads. Reducing speeds, spreading gravel and using products like Dust-Down decrease road dust.
- In dry years, take into account that harvest activities will likely result in increased dust due to lack of stored soil moisture, and that a reduced tree canopy will filter less dust.

For more information on reducing dust during almond harvest, visit Almonds.com/HarvestDust.

Faulkner, W.B., D. Downey, D.K. Giles, and S.C. Capareda. 2011. Evaluation of particulate matter abatement strategies for almond harvest. *Journal of the Air and Waste Management Association* 61: 409-417.



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