

Safety Note #51

WIND MACHINE SAFETY



Photograph Courtesy of South Coast REC

Wind machines are used to provide frost protection for orchard trees and crops. When an inversion layer forms above orchard trees, the temperature may be from 5° to 10°F warmer at heights of 40 to 50 ft. above the trees than at ground level. Under these conditions, colder air becomes trapped below the inversion layer at the elevation of the orchard. Wind machines can effectively redistribute warmer air from the inversion layer downward to prevent or minimize orchard frost damage caused by colder air. California Code of Regulations Title 8, Section 3203 (7) requires employees be trained on the equipment they use in the workplace.

Pre-Use Activities

- Thoroughly review and understand information provided in the wind machine operator's manual with particular attention given to descriptions of safety procedures.
- Before using, always inspect the wind machine for damage or disrepair and make sure all drive train covers are securely in place. Always check oil levels prior to use.
- If a wind machine fails the pre-use inspection, notify your supervisor and remove the equipment from service by attaching a red tag that states "DO NOT USE." Complete red tag with appropriate information.
- Keep orchard sprays from hitting wind machine engines and towers.
- Shield irrigation sprinklers from wind machine engines.

Operating Precautions

- Never operate a wind machine when winds are at 4 mph or greater.
- Always stand outside of the plane of rotation of the fan blades. When nearby the wind machine, keep the wind machine tower between yourself and the fan shaft.
- Never operate a wind machine during foggy conditions.
- REC employees are not authorized to climb wind machine towers.
- Wind machine repairs and seasonal maintenance shall be performed by the vendor or vendor-approved contractor.
- Never run the wind machine engine for more than 1 minute with the clutch not engaged.
- Always run the engine throttle at fast idle for 5 minutes before operating the wind machine at full speed.
- Wind machine shut down procedures include returning the engine throttle to fast idle for 2 to 3 minutes followed by reducing the engine speed to idle, disengaging the clutch, and shutting the engine off. After the fan blades have stopped turning, re-engage the clutch.
- Never allow the fuel tank to run out of fuel when a wind machine is operating.

Note: Portions of Safety Note #51 were developed from information provided by the Amarillo Wind Machine Company, Exeter, California