

**NATURAL RESOURCES CONSERVATION SERVICE**  
**INTERIM CONSERVATION PRACTICE STANDARD**  
**ORCHARD AND VINEYARD AIR QUALITY MANAGEMENT**

**(Acres)**

**Code 752**

**DEFINITION**

Managing air emissions from agricultural production activities at orchards and vineyards.

**PURPOSE**

The purpose of this practice is to address the following NRCS air quality resource concerns at orchards and vineyards:

- Particulate matter
- Ozone precursors
- Greenhouse gases

**CONDITIONS WHERE PRACTICE APPLIES**

This practice applies at orchards and vineyards that include any one or a combination of the following types of activities:

- Fuel-combustion sources
- Handling of prunings, trimmings, and removed vegetation
- Management of floor surfaces and vehicle travel areas
- Pesticide usage

**CRITERIA**

**General Criteria Applicable to All Purposes**

A site-specific plan shall be prepared that, at a minimum, prescribes the following:

- The purposes for which this standard is being applied
- The air emissions which are intended to be managed by application of this standard

**Additional Criteria Applicable to Fuel Combustion Sources**

The additional criteria in this section are intended to address the air quality resource concerns related to the emissions of direct particulate matter, oxides of nitrogen and volatile organic compounds (precursors to ozone and fine particulate matter

formation), and/or carbon dioxide (a greenhouse gas).

For each of the individual types of fuel combustion sources under this purpose (frost protection, stationary engines, and other fuel combustion sources), only the additional criteria for the particular type(s) of fuel combustion source(s) to be addressed at the site are applicable. For example, if frost protection is the only fuel combustion source type intended to be addressed by the application of this standard at a site, the additional criteria under stationary engines and other fuel combustion sources are not required to be met at that site.

**Frost Protection**

Liquid or solid fuel-fired combustion sources (such as diesel-fired smudge pots) used for frost protection shall be replaced with either cleaner-burning combustion devices, such as propane heaters, or non-combustion frost protection devices, such as wind machines, Selective Inverted Sink (SIS) machines, sprinkler systems, etc.

Replacement devices for frost protection shall be installed according to a producer-provided analysis of the frost protection needs of the orchard or vineyard. This analysis shall include, at a minimum:

- Examination and identification of the areas at the orchard/vineyard with the greatest potential for cold air pooling and vulnerability to freezing temperatures, including both topographical and meteorological effects, and
- Review of replacement devices, including the following:
  - Type of replacement devices to be installed,
  - Number of replacement devices with a short description of the reasoning for the proposed number, and
  - Recommended locations for replacement device installation, based on the examination of areas to be protected from frost conditions.

Installation of a sprinkler system for frost protection shall be conducted in accordance with the Additional Criteria Applicable to Climate Control and/or Modification in conservation practice standards Irrigation System, Microirrigation (code 441) and Irrigation System, Sprinkler (code 442).

### **Stationary Engines**

The replacement or upgrade of stationary engines for reducing air emissions at orchards and vineyards shall follow the applicable criteria in interim conservation practice standard Combustion Systems Air Emissions Management (code 723).

### **Other Fuel Combustion Sources**

Other liquid or solid fuel-fired combustion sources shall be replaced with either cleaner-burning combustion devices or non-combustion devices.

### **Additional Criteria Applicable to Handling of Prunings, Trimmings, and Removed Vegetation**

The additional criteria in this section are intended to address the air quality resource concerns related to the emissions of direct particulate matter, oxides of nitrogen and volatile organic compounds (precursors to ozone and fine particulate matter formation), and/or carbon dioxide (a greenhouse gas).

Vegetative biomass from the pruning, trimming, or removal of orchards and vineyards shall not be burned, except in cases where burning is the only acceptable method for treating disease or pest infestation. When burning is required, the applicable criteria in conservation practice standard Prescribed Burning (code 338) and applicable state and local laws shall be followed. Acceptable alternatives to burning include chipping, grinding, and shredding the vegetative biomass.

### **Additional Criteria Applicable to the Management of Orchard/Vineyard Floor Surfaces and Vehicle Travel Areas**

The additional criteria in this section are intended to address the air quality resource concerns related to the direct emissions of particulate matter.

Floor surfaces and vehicle travel areas shall be managed to minimize emissions of direct particulate matter emissions utilizing the applicable criteria in

one or more of the following conservation practice standards:

- Conservation Cover (code 327)
- Dust Control on Unpaved Roads and Surfaces (interim – code 729)
- Heavy Use Area Protection (code 561)
- Irrigation System (codes 441, 442, 443, and 447)
- Mulching (code 484)

### **Additional Criteria Applicable to Pesticide Usage**

The additional criteria in this section are intended to address the air quality resource concerns related to the emissions of volatile organic compounds (precursors to ozone and fine particulate matter formation), as well as chemical drift.

Pesticide applications shall be managed to minimize pesticide usage, minimize pesticide volatilization, more accurately target pesticide application, and/or manage chemical drift by utilizing the applicable criteria in one or more of the following conservation practice standards:

- Pest Management (code 595)
- Precision Pest Control Application (interim – code 718)
- Windbreak/Shelterbelt Establishment (code 380)

### **CONSIDERATIONS**

Application of practices for managing air emissions may have impacts, either positive or negative, on other resources, resource concerns, or human considerations, such as energy and economics. Consider the additional effects of applying this practice when developing any conservation plan that includes this practice.

### **PLANS AND SPECIFICATIONS**

Plans and specifications shall be prepared in accordance with the criteria of this standard and shall describe the requirements for applying the practice to achieve its intended use.

### **OPERATIONS AND MAINTENANCE**

An operation and maintenance plan shall be developed that is consistent with the purposes of this practice and any applicable safety requirements.