



## CONSERVATION ENHANCEMENT ACTIVITY

**E376128Z**

## CONSERVATION STEWARDSHIP PROGRAM

### Modify field operations to reduce particulate matter

Conservation Practice 376: Field Operations Emissions Reductions

APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial)

RESOURCE CONCERN ADDRESSED: Air Quality Impacts

ENHANCEMENT LIFE SPAN: 1 year

#### Enhancement Description

Modify tillage and/or harvest operations to reduce particulates by at least 20 percent below the required levels.

#### Criteria

- There must be a demonstrated reduction by at least 20 percent in particulate matter (PM) emissions from the benchmark (current system) to the planned system by using one or more of the techniques below:
  - Combined Tillage Operations.—Utilize equipment that allows multiple operations in a single pass to reduce the number of field passes per crop rotation.
  - Precision Guidance Systems.—To reduce total soil disturbance, use global positioning system (GPS) and steering technologies that minimize overlap of field passes.
  - Alternative Equipment Technology.—Use alternative equipment and/or equipment retrofits that reduce PM emissions. This can include dust-reducing technology (such as misters, deflectors, etc.) increasing equipment size to reduce net field passes, and changes to bed/row size or spacing.



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- Timing of Field Operations.—Modify the timing of field operations so that PM emissions are reduced. This can include conducting operations when relative humidity and/or soil moisture levels are higher, winds are lighter, or by limiting operations during high-wind events. This could also include a reduction in the amount of time between seedbed preparation and planting, and other such timing modifications that reduce PM emissions.
- Modify Crop Cultural and Harvest Methodologies.—Modify operations to use other means of crop production such as performing soil disturbance and/or harvest operations at slower speeds. For example, harvesting a forage crop without allowing it to dry in the field, hand harvesting, applying water or other soil stabilizing material prior to soil disturbance or harvest, using transplants instead of direct seeding, and applying chemicals and fertilizers via irrigation to reduce field passes.
- For applicable mechanical nut harvest operations manage pre-harvest irrigation water to create a more consolidated and firm soil surface to reduce harvest-related PM emissions.



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### Documentation and Implementation Requirements

Participant will:

- Prior to implementation, complete the table for all current/benchmark field operations or activities.

Field: \_\_\_\_\_ Acres: \_\_\_\_\_

Current/Benchmark Crops in Rotation	List ALL Current/Benchmark Field Operations or Activities for each crop	Field Operation or Activity Timing (month)

- Prior to implementation, complete the table for planned field operations or activities.

Field: \_\_\_\_\_ Acres: \_\_\_\_\_

Planned Crops in Rotation	List ALL Planned Field Operations or Activities for each crop	Field Operation or Activity Timing (month)

- During implementation, keep documentation, such as records, plans, or receipts, showing the implementation of the activities selected. Check in the list below which technique(s) are implemented.
  - Combined tillage operations
  - Precision guidance systems
  - Alternative equipment technology
  - Timing of field operations
  - Modify crop cultural and harvest methodologies



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- During implementation, note any special considerations or details about how specific activities or techniques are applied.

- After implementation, make documentation kept available for review by NRCS to verify implementation of the enhancement.

NRCS will:

- As needed, provide technical additional assistance to the participant as requested.
- After implementation, verify implementation by reviewing documentation kept during enhancement implementation.

### NRCS Documentation Review:

I have reviewed all required participant documentation and have determined the participant has implemented the enhancement and met all criteria and requirements.

Participant Name \_\_\_\_\_ Contract Number \_\_\_\_\_

Total Amount Applied \_\_\_\_\_ Fiscal Year Completed \_\_\_\_\_

\_\_\_\_\_  
NRCS Technical Adequacy Signature

\_\_\_\_\_  
Date

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