Eastern Kern Air Pollution Control District

RULE 402.2
AGRICULTURAL OPERATIONS

FINAL STAFF REPORT

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I. INTRODUCTION

Fugitive dust contains varying sizes of respirable particulate matter including those with an aerodynamic diameter of 10 micrometers or less (PM_{10}). The purpose of Rule 402.2 is to reduce PM_{10} and fugitive dust emissions from Agricultural Operations (AG Operations) located in Eastern Kern County by requiring implementation of Conservation Management Practices (CMP)s designed to prevent, reduce, and mitigate PM_{10} emissions. District Rule 419, Nuisance shall still be used to prevent or correct specific public nuisances and health hazards.

The Eastern Kern Air Pollution Control District (District) is proposing to adopt amendments to Rule 402.2, Agricultural Operations. Draft Rule 402.2 was originally adopted March 12, 2015. Upon completing their review of the rule, the U.S Environmental Protection Agency (EPA) expressed concerns with a few State Implementation Plan (SIP) approvability issues. EPA gave the District the option of receiving partial approval-disapproval of Rule 402.2, or withdrawing the submittal, correcting the deficiencies in the rule, and resubmitting the corrected revision for inclusion into the SIP at a later date.

The District chose to withdraw Rule 402.2 through formal request on March 4, 2021. Although Rule 402.2 was withdrawn from EPA's consideration, the District continues to enforce the rule locally, and will continue to enforce it until the District's Board adopts a revision. This staff report presents the revisions made to Draft Rule 402.2 to address EPA's questions, comments, and concerns.

District Rule 419, Nuisance shall still be used to prevent or correct specific public nuisances and health hazards.

Appendix A: Proposed Revision of Rule 402.2, Agricultural Operations.

Appendix B: Proposed Revision of Rule 402.2, Agricultural Operations Strikeout underline.

II. BACKGROUND

In 1987, EPA replaced the earlier Total Suspended Particulate (TSP) air quality standard with a PM_{10} standard. The new standard focused on smaller particles that are responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract. The PM_{10} standard includes particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair). EPA's health-based National Ambient Air Quality Standard (NAAQS) for PM_{10} is 50 $\mu g/m^3$ (measured as an annual mean) and 150 $\mu g/m^3$ (measured as a daily concentration).

California Air Resources Board (CARB) has adopted State Ambient Air Quality Standards (CAAQS) for PM_{10} that are the most health-protective standards in the nation. The CAAQS for PM_{10} is 20 $\mu g/m^3$ (measured as an annual mean) and 50 $\mu g/m^3$ (measured as a daily concentration). Virtually the entire State is nonattainment for the PM_{10} CAAQS; this includes the District.

District PM_{10} Designations

There are three (3) PM_{10} classification areas located in the District. One area has been designated Serious Nonattainment for the NAAQS. The federal Clean Air Act requires areas designated as serious nonattainment for PM_{10} to implement Best Available Control Measure (BACM) and Best Available Control Technology (BACT) on all significant sources of emissions.

TABLE 1 District Attainment Status

District Regions	PM_{10} Attainment Status	
	State Standards	National Standards
Indian Wells Planning Area	Nonattainment	Attainment/Maintenance
Cummings & Kern River Valley	Nonattainment	Serious/Nonattainment
Remainder of District	Nonattainment	Attainment/Unclassifiable

AG Operations have been identified as a significant source of PM_{10} emissions in the District that can be mitigated. Unfortunately, BACM or BACT is not being voluntary implemented by all AG Operations. Rule 402.2 implements BACM on existing AG Operations to achieve PM_{10} emission reductions and minimize an increase in future PM_{10} emissions caused by new AG Operations. Rule 402.2 is included in the District's PM_{10} attainment plan.

Senate Bill 700

On September 22, 2003, Governor Davis signed into law Senate Bill 700 (SB 700), authored by Senator Florez. The bill amended air pollution control requirements in the California Health and Safety Code (CH & SC) to include requirements for agricultural sources of air pollution. Agricultural sources of air pollution were the focus of the bill for two primary reasons.

1. Activities associated with AG Operations significantly contribute to the very poor air quality in some regions of the state that have the highest asthma rates in the nation. SB 700 addresses the agricultural contribution to these problems, while recognizing that the problems are not the same, nor is the contribution from all AG Operations, throughout the state.

2. California law had previously exempted AG Operations from requirements to obtain air permits. This resulted in a conflict between state and federal law, and California faced sanctions if it failed to correct the problem. Had the bill not been signed, new and expanding businesses in the state would have faced significant and costly hurdles to obtain air permits required under federal law, and the state would have lost billions of dollars in federal transportation funding.

Additionally, SB 700:

- Defines "Agricultural Source" in state law;
- Removes the restriction from state law that prevented air districts from requiring permits for agricultural sources;
- Establishes specific permitting and exemption requirements for agricultural sources;
- Requires emission control regulations in areas that do not attain NAAQS for PM10;
- Requires permits and emissions mitigation for Confined Animal Facilities (CAFs) that are defined by ARB as "Large"; and
- Requires the California Air Pollution Control Officers Association (CAPCOA) to compile a clearinghouse of information about available emissions control and mitigation for agricultural activities.

Lastly, SB 700 allows air districts to adopt agricultural rules, in lieu of issuing operating permits to all AG Operations, if emissions are mitigated from all types of associated activities and equipment listed in the bill. This includes (but not limited to) tilling, discing, cultivation, the raising of livestock and fowl, and similar activities, to a level that the district determines does not cause or contribute to a violation of a state or federal ambient air quality standard, a toxic air contaminant standard, or other air limitation. SB 700 specifically states that the permit exemption must be adopted as a program, which means it is a regulatory action.

Note: SB 700 does not remove the exemption from the general odor-nuisance provisions of the CH & HC.

III. APPLICABILITY

Provisions of amended Rule 402.2 are applicable to agricultural operations located within the District.

IV. DEFINITIONS

To enhance clarity and enforcement, Section III of the proposed revision provides the following new definition for a new term that may not be self-explanatory:

High-Wind Event: Periods with sustained wind and gusts exceeding 25 miles per hour.

V. REQUIREMENTS

The following requirement was added to Section V, Requirements of proposed revision:

An owner/operator shall avoid tilling or harvesting the day before a forecast high-wind event or during a high-wind event.

VI. ADMINISTRATIVE REQUIREMENTS

The following language in Section VII.B.1. and 2. Administrative Requirements have been removed:

1. Within 210-days after adoption of this rule, for existing agricultural operation(s). and

2. Within 180-days after adoption of this rule, for agricultural operation(s) or agricultural parcel(s) that are acquired and become subject to the provisions of this Rule after adoption date.

The following language in Section VII.B.1. Administrative Requirements has been added:

1. Within 180 days for any new agricultural operation or agricultural parcel that is acquired and becomes subject to the provisions of this Rule.

VII. ENVIRONMENTAL IMPACTS

Both the California Environmental Quality Act (CEQA) and ARB policy require an evaluation of the potential adverse environmental impacts of proposed projects. The intent of Amended Rule 402 is to protect public health by reducing the public's exposure to potentially harmful PM10 emissions. An additional consideration is the impact that the proposed rule may have on the environment. District has determined that no significant adverse environmental impacts should occur as a result of adopting Amended Rule 402.

Pursuant to the Section 15061, Subsections (2) & (3) of the CEQA Guidelines, staff will prepared and file a Notice of Exemption for this project upon adoption.

VIII. SOCIOECONOMIC IMPACTS

CHSC Section 40728.5 exempts districts with a population of less than 500,000 persons from the requirement to assess the socioeconomic impacts of adopted rules. Eastern Kern County population is below 500,000 persons.

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APPENDIX A:

PROPOSED REVISION RULE 402.2

AGRICULTURAL OPERATIONS

RULE 402.2 Agricultural Operations - Adopted 3/12/15, Amended XX/XX/XX

I. Purpose

Fugitive dust contains varying sizes of respirable particulate matter including those with an aerodynamic diameter of 10 micrometers or less (PM_{10}). The purpose of this Rule is to prevent, reduce, and mitigate ambient concentrations of anthropogenic fugitive dust emissions generated from agricultural operations through implementation of Conservation Management Practices.

II. Applicability

Provisions of this Rule are applicable to agricultural operations located within the Eastern Kern Air Pollution Control District (District).

III. Definitions

A. Administrative change: A change to a CMP Plan that:

1. Corrects typographical errors;

2. Identifies a change in the name, address, or phone number of any person identified in the CMP Plan, or provides a similar minor administrative change which has no effect on the selected CMPs and does not change any information that could be used to determine emissions reduction; or

3. Allows for the change of ownership or operational control of an agricultural operation site or agricultural parcel.

B. Agricultural Operation: The growing and harvesting of crops or the raising of fowl or animals, for the primary purpose of earning a living, or of conducting agricultural research or instruction by an educational institution.

C. Agricultural Operation Site: One or more agricultural parcels that meet the following:

1. Are under the same or common ownership or operation, or which are owned or operated by entities which are under common control; and

2. Are located on one or more contiguous or adjacent properties wholly within the District jurisdiction.

D. Agricultural Parcel: A portion of real property, including but not limited to, cropland and animal feeding operation (AFO) used by an owner/operator for carrying out a specific agricultural operation. Roads, vehicle/equipment traffic areas, and facilities on or adjacent to the cropland or AFO are part of the agricultural parcel.

E. Alternative Tilling: Till alternative rows for weed management, reducing approximately 50% of field activity related to tilling, in addition to stabilizing soil surface and reducing soil compaction.

F. Air Pollution Control Officer (APCO): Air Pollution Control Officer of the Eastern Kern Air Pollution Control District or his designee.

G. Animal Feeding Operation (AFO): A lot or facility where animals have been, are on, or will be, gathered, fed, or stabled for a total of 45 days or more in any 12 month period and where crops, vegetation, forage growth, or post-harvest residues are not sustained over any portion of the lot or facility (as defined in 40 CFR 122.23 (b) (1)).

H. Application Efficiencies: Use more efficient application equipment so as to reduce a minimum of one ground operation. Examples include: compact or low volume spray equipment; aerial applications; micro-heads or infrared spot sprayers; electrostatic sprayers. Reduces soil compaction, passes and chemical usage.

I. Baling/Large Bales: Reduce a minimum of one pass through the field per acre by using large balers to harvest crops.

J. Bed/Row Size or Spacing: Reduce a minimum of one tillage operation by Increasing or decreasing the size of the planting bed area (can be done for field and permanent crops) or adjusting spacing. Spacing adjustments reduce the number of passes and soil disturbance by increasing plant density/canopy through reduction of row width to contain PM within the canopy.

K. Bulk Materials Control: Minimize visible dust emissions from bulk materials by using dust suppressant or water to form a stabilized surface, or using a tarp to fully cover the pile or truckbed, or using a wind barrier or 3-sided structure to reduce entrainment of fugitive dust.

L. Chemigation/Fertigation: Reduce a minimum of one ground operation by applying chemicals through an irrigation system. This reduces the need to travel in the field for application purposes, thus reducing operations and soil disturbance while increasing the efficiency of the application.

M. Chips/Mulches, Organic Materials, Polymers, Road Oil & Sand: Application of any nontoxic chemical or organic dust suppressant that meets all specification required by any applicable federal, state, or local water agency and is not prohibited for use by any applicable regulations. Chips/Mulches and organic materials should meet the specifications in the mulches definition below. Polymers, road oil and sand should create a stabilized surface during high traffic times such as harvest.

N. Combined Operation: Combine equipment to perform several operations during one pass, thereby reducing a minimum of one tillage operation. Examples include: use of one-pass till equipment in ground preparation or crop tillage; and cultivation and fertilization of a field crop in a single pass. Other benefits are reduction of soil compaction and time to prepare fields, both of which can be precursors to additional tillage requirements. If a combined operation is accomplished through equipment change/technological improvement, that action is considered one CMP, and either Equipment Changes/Technological Improvements CMP or Combined Operations CMP may be selected in a CMP Plan, but not both.

O. Conservation Irrigation: Reduce a minimum of one tillage operation related to weeding by conserving the amount of water used by using either drip, sprinkler, or buried/underground line irrigation. Conserving water reduces weed population, which in turn reduces the need for tillage and reduces soil compaction.

P. Conservation Management Practice (CMP): An activity or procedure that prevents, reduces, or mitigates PM_{10} normally emitted by, or associated with, an agricultural activity.

Q. Conservation Management Practice Plan (CMP Plan): A document prepared by the owner or operator of an Agricultural Operation site that lists the selected CMPs for implementation. The CMP Plan also contains, but is not limited to, contact information for the owner or operator, a description of the Agricultural Operation Site and locations of Agricultural Parcels, and other information describing the extent and duration of CMP implementation.

R. Conservation Management Practice Program (CMP Program): A District program with the purpose of reducing air pollutants from agricultural operation sites.

S. Conservation Tillage (e.g.: no tillage, minimum tillage): A tillage system that reduces a minimum of three tillage operations. This system reduces soil and water loss by reducing the number of passes and by leaving crop residue on the field after harvest as well as managing the residue so that it remains intact during the planting season. It reduces the number of passes and amount of soil disturbance. It improves soil because it retains plant residue and increases organic matter.

T. Contiguous or Adjacent Property: A property consisting of two or more parcels of land with a common point or boundary, or separated solely by a public roadway or other public right-of-way.

U. Cover Crops: Establish cover crops that maintain a minimum of 60 percent ground cover, as determined by the Line Transect Test Method. Native or volunteer vegetation that meets the minimum ground cover requirement is acceptable.

V. Crop Residue Management: Maintain crop residue from previous crops until tilling for the next crop. Crop residues must maintain a minimum of 60 percent ground cover as determined by Line Transect Test Method. Implements such as undercuters or sweeps can maintain crop residues without burying or destroying residues.

W. Cross Wind Stripcropping: Establish crops in parallel strips across the prevailing wind erosion direction and arranged so that strips susceptible to wind erosion are alternated with strips having a protective cover that is resistant to wind erosion. The strips with the protective cover should be at least as wide as the strips susceptible to wind erosion.

X. Equipment Changes/Technological Improvements: Reduce a minimum of one tillage operation by modifying equipment or making technological improvements. Examples include flame cultivation or equipment that combines discing, chiseling and ring rolling. If an equipment change/technological improvement is made in order to combine operations, that action is considered one CMP; either Equipment

Changes/Technological Improvements CMP or Combined Operations CMP may be selected in the CMP plan, but not both.

Y. District: As defined in Rule 102 (Definitions).

Z. Fallow Land: Temporary or permanent removal from production. Eliminates entire operation/passes or reduces activities.

AA. Field Windbreaks: Plant or maintain a single or multiple row of trees or shrubs adjacent to windward edge of the field as close to perpendicular as practical with the direction of erosive winds. Windbreaks such as trees or shrubs should be established at a right angle to the prevailing wind direction. Sites downwind of the windbreak are considered protected if they fall within an area that is less than or equal to 10 times the height of the windbreak. The windbreak should have a porosity of 50 %. This CMP should be implemented consistent with NRCS Code 380 – Windbreak/Shelterbelt Establishment.

BB. Fugitive Dust: As defined in Rule 102 (Definitions).

CC. Gravel: Placing a layer of Gravel at least 3 inches in depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained.

DD. Green Chop: Reduce a minimum of one ground operation by harvesting a forage crop without allowing it to dry in the field. This practice reduces soil disturbance and soil compaction.

EE. Grinding/Chipping/Shredding: Grinding pruning's and orchard removals instead of burning; incorporate to soil. Reduces PM from burning crop residues.

FF. Ground Operation: An agricultural operation that is not a tillage operation that involves equipment passing across the field, such as a chemical spray application. A pass through the field may be a subset of a ground operation.

GG. Hand Harvesting: Reduce a minimum of one ground operation by harvesting a crop by hand. It reduces soil disturbance due to machinery passes.

HH. High-Wind Event: Periods with sustained wind and gusts exceeding 25 miles per hour.

II. Integrated Pest Management: Reduce a minimum of one ground operation by using a combination of techniques including organic, conventional and biological farming concepts to suppress pest problems. It creates beneficial insect habitat that reduces the use of herbicides/pesticides thereby reducing number of passes for spraying. It also reduces soil compaction and the need for additional tillage. If integrated pest management CMP uses the same practices described in the Organic Practices CMP, this action is considered one CMP, and either Integrated Pest Management CMP or Organic Practices CMP may be selected in a CMP plan, but not both.

JJ. Irrigation Power Units: Use cleaner burning engines, electric motors (CMP only applicable if engines are cleaner than otherwise required by current local, state and federal requirements).

KK. Mature Dairy Cow: A cow that has had its first calf.

LL. Mulching: Reducing PM10 emissions and wind erosion and preserving soil moisture by uniformly applying a protective layer of plant residue or other material to a soil surface prior to disturbing the site to reduce soil movement. Mulching material shall be evenly applied, and if necessary, anchored to the soil. Mulch should achieve a minimum 70% cover, and a minimum of 2 inch height above the surface. Inorganic material used for mulching should consist of pieces of .75 to 2 inches in diameter.

MM. Native Vegetation Mowing: Mowing native vegetation in order to leave native plant root systems in place in order to stabilize soil and promote indigenous plant regrowth.

NN. Night Farming: Operate at night when moisture levels are higher and winds are lighter. It decreases the concentration of PM emissions during daytime and the increased ambient humidity reduces PM emissions during the night. Night farming should take place between sundown and sunrise.

OO. Night Harvesting: Implementing harvesting practices at night when moisture levels are higher and winds are lighter. It reduces PM by operating when ambient air is moist, thereby reducing PM emissions. Night harvesting should take place between sundown and sunrise.

PP. No Burning: Switching to a crop/system that would not require waste burning. It reduces emissions associated with burning.

QQ. Non Tillage/Chemical Tillage: Reduce a minimum of one tillage operation by, for example, using a flail mower or low volume sprayers. It reduces soil compaction and stabilizes soil.

RR. NRCS: The United States Department of Agriculture Natural Resource Conservation Service.

SS. Opacity: As defined in Rule 402, Fugitive Dust.

TT. Organic Practices: Reduce a minimum of one ground or tillage operation by using biological control methods or non-chemical control methods. Examples include: organic certification, biological controls, mulches and humus. If an organic practice CMP uses the same practice as described in the integrated pest management CMP, this action is considered one CMP, and either Organic Practices CMP or Integrated Pest Management CMP may be selected in a CMP plan, but not both.

UU. Owner/Operator: Includes, but is not limited to, any person who leases, supervises, operates equipment, or owns/operates a fugitive dust source, in addition to the normal meaning of owner or operator.

VV Particulate Matter: As defined in Rule 102 (Definitions).

WW. Paved Road: Any road/area that is covered by concrete, asphaltic concrete, asphalt, recycled asphalt, or concrete, which provides structural support for vehicles.

XX. Permanent Crops: Having an established permanent crop that is not replanted annually.

YY. PM_{10}: As defined in Rule 402, Fugitive Dust.

ZZ. Precision Farming (GPS): Reduce a minimum of one pass through the field per acre by using satellite navigation to calculate position in the field, therefore manage/treat the selective area. It reduces overlap and allows operations to occur during inclement weather conditions and at night thereby generating less PM.

AAA. Pre-Harvest Soil Preparation: Applying a water or stabilizing material to soil prior to harvest to form a visible crust. It reduces PM emissions at harvest.

BBB. Reduced Pruning: Reduce a minimum of one ground operation by reducing the frequency of pruning (e.g. one time per year, or every other year).

CCC. Restricted Access: To restrict or eliminate public access to unpaved private roads with signs or physical obstructions. At each access point, install signs or physical barriers such as gates, fencing, posts, signs, shrubs, trees that block or effectively control access to the area. It reduces vehicle traffic and thus reduces associated fugitive dust.

DDD. Ridge Roughness: Establish stabilized ridges , sufficient to meet the definition of stabilized surface, by normal tillage and planting equipment as close to perpendicular as practical with the direction of erosive winds (not appropriate for unstable soils such as sands or loamy sands). After establishment, ridges shall be maintained through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion. Ridge spacing should be no greater than 4 times the ridge height. This CMP should be implemented consistent with NRCS Code 588 -- Cross Wind Ridges.

EEE. Road: Any road or street, highway, freeway, alley, way, access easement or driveway.

FFF. Road Mix: A mixture of tank bottoms from crude oil storage tanks, material from crude oil spills, or other crude-oil-containing soil mixed with aggregates and soils that are used as a base cover materials for roads, parking lots, berms, tank and well locations, or similar applications.

GGG. Shed Packing: Reducing a minimum of one pass through the field per acre by packing commodities in a covered or closed area, rather than field-pack. It reduces field traffic, thereby reducing PM emissions.

HHH. System/Large Carrier: Reduce a minimum of one pass through the field per acre by hauling multiple or larger trailers/bins per trip.

III. Soil Amendments: Organic or chemical materials uniformly applied to the soil for improvement (e.g: gypsum, lime, polyacrylamide).

JJJ. Speed Limits: Control speed limits to 15 mph on unpaved roads through worker behavior modifications, signage, or any other necessary means.

KKK. Stabilized Surface: As defined in Rule 402, Fugitive Dust.

LLL. Sulfur Reduction or Elimination: Reduce a minimum of one ground operation by reducing or eliminating sulfur dusting, an organic chemical used to control disease in crop, ornamental and home and gardens.

MMM. Surface Roughening: Produce and maintain stable clods or aggregates on the land surface, sufficient to meet the definition of stabilized surface, by bedding, rough disking, or tillage that leaves the surface covered by stable clods. Soil clods prevent wind erosion because they resist the forces of the wind and because they shelter other erodible materials. This CMP should be implemented consistent with NRCS Code 609 – Surface Roughening.

NNN. Tillage Operation: An agricultural operation that mechanically manipulates the soil for the enhancement of crop production. Examples include discing, weeding, or bedding. A pass through the field may be a subset of a tillage operation.

OOO. Track-Out Control: Minimize any and all material that adheres to and agglomerates on all vehicle and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road. Install one of the following devices: a grizzly, a gravel pad or a wheelwash system at all intersections of unpaved roads and public roads. Track-out control should be implemented pursuant to Rule 402, Fugitive Dust, Section V.F.

PPP. Transgenic Crops: Use of GMO or Transgenic crops such as “herbicide-ready” to reduce a minimum of one tillage operation. It reduces the need for tillage or cultivation operations, as well as reduces soil disturbance. It can also reduce the number of chemical applications.

QQQ. Unpaved Road: Any road that is not covered by one of the materials described in the paved road definition.

RRR. Unpaved Vehicle/Equipment Traffic Area: Any nonresidential area that is not covered by asphalt, recycled asphalt, asphaltic concrete, concrete, or concrete pavement that is used for fueling and servicing; shipping, receiving and transfer; or parking or storing equipment, haul trucks, vehicles, and any conveyances.

SSS. Visible Dust Emissions (VDE): Dust emissions visible to an observer. Opacity observations to determine compliance with VDE standards shall be conducted in accordance with the test procedures for “Visual Determination of Opacity” as described in Appendix B of Rule 402, Fugitive Dust.

TTT. Vehicle: As defined in Rule 102 (Definitions).

UUU. Water Application: Application of water to unpaved roads and traffic areas to create a visibly moist surface.

UUU. Wind Barriers (Herbaceous): Reduce wind erosion by planting or maintaining perennial or annual plants established in rows or narrow strips interspersed throughout a crop field as close to perpendicular as practical with the direction of erosive winds. This CMP should be implemented consistent with NRCS Code 603 – Herbaceous Wind Barriers. The selected plant(s) must stand at least three feet tall, with a porosity of 50%.

IV. Exemptions

A. Except for the recordkeeping requirements of Section VII.E.2, provisions of this rule shall not apply to:

1. Agricultural operation site where the total acreage of all agricultural parcels is less than 10 acres.

2. Woodland and wasteland not actually under cultivation or used for pasture.

3. Land placed in the Conservation Reserve Program meeting the definition and criteria set by the NRCS.

4. Agricultural operation parcel used for the purpose of:
   a. Propagating young trees, shrubs, or other miscellaneous crops for transplanting, and exhibiting plants under controlled conditions inside a building with walls and roof;
   b. Providing grazing rangeland or pasture; or
   c. Forestry, including but not limited to timber harvest operations, silvicultural practices, forest management burning, or forest protection practices.

5. AFO of mature dairy cows with less than 500 mature dairy cows, whether milked or dry.

6. AFO of cattle, other than mature dairy cows or veal calves, with less than 190 cattle, other than mature dairy cows or veal calves. Cattle includes, but not limited to, heifers, steers, bulls and cow/calf pairs.

7. AFO of turkeys with less than 55,000 turkeys.

8. AFO of chickens, other than laying hens, with less than 125,000 chickens.

9. AFO of laying hens with less than 82,000 laying hens.

10. AFO other than an AFO for mature dairy cows, cattle, turkeys, chickens, or laying hens.

B. Exemption from his rule does not exempt the owner/operator from any other District Rules or Regulations.

V. Requirements

A. An owner/operator of an agricultural operation site of ten (10) acres or more, shall implement at least one (1) CMP for each of the following categories (1 through 4), and perform all related requirements, on each agricultural parcel, pursuant to the schedule listed in Section VII.B:

1. Land Preparation and Cultivation, (CMPs located in Section VI.A);
2. Harvest Activities, (CMPs located in section VI.B);
3. Unpaved Roads and Traffic Areas, (CMPs located in Section VI.C);
4. Windblown Dust, (CMPs located in Section VI.D).

CMPs are not required for categories 1 and 2 on parcels implementing Conservation Tillage. However, Conservation Tillage parcels shall still implement CMPs for categories 3 and 4.

B. Pursuant to Section VII of this Rule, an owner/operator shall prepare and submit a CMP application for each agricultural operation site to the APCO for approval. A CMP application approved by the APCO shall constitute a CMP Plan.

C. Except as provided in Section V.D. an owner/operator shall implement the approved CMP Plan for each agricultural operation site pursuant to Section VII, no later than ten (10) days after receiving CMP Plan approval from the APCO.

D. An owner/operator that discontinues implementation of a CMP as committed to in an approved CMP Plan, or makes other changes inconsistent with the CMP Plan, shall comply with the requirements of Section VII.B.3.

E. An owner/operator shall ensure that implementation of each selected CMP does not violate any other local, state, or federal law.

F. An owner/operator shall avoid tilling or harvesting the day before a forecast high-wind event or during a high-wind event.

VI. Conservation Management Practices

An owner/operator subject to the requirements of this rule shall implement on each agricultural parcel, at least one CMP from each of the following source categories listed below. An owner/operator of Fallow Land must comply with Section VI.D.3.

A. Land Preparation and Cultivation (Category V.A.1)

1. Alternative Tilling,
2. Bed/Row Size Spacing,
3. Chemigation/Fertigation,
4. Combined Operations,
5. Conservation Irrigation,
6. Cover Crops,
7. Equipment Changes/Technological Improvements,

8. Fallow Land,
9. Integrated Pest Control,
10. Mulching,
11. Native Vegetation Mowing,
12. Night Farming,
13. Non Tillage/Chemical Tillage,
14. Organic Pesticides,
15. Precision Farming (GPS), or
16. Transgenic Crops.

B. Harvest Activities (Category V.A.2).

1. Baling /Large Bales,
2. Combined Operations,
3. Equipment Changes/Technological Improvements,
4. Green Chop,
5. Hand Harvesting,
6. Fallow Land,
7. Night Harvesting,
8. No Burning,
9. Pre-Harvesting Soil Preparation,
10. Shed Packing, or
11. Shuttle System/Large Carrier.

C. Unpaved Roads and Traffic Areas (Category V.A.3)

1. At least one of the following CMPs shall be implemented, at all times, on all unpaved roads and traffic areas on agricultural operation site:
   a. Chips/Mulches, Organic Materials, polymers, road oil and sand,
   b. Gravel,
   c. Paving,
   d. Restricted access,
   e. Low Speed limit (15 mph or less),
   f. Track-out control,
   g. Water Application, or
   h. Field windbreak.

2. Unpaved roads or traffic areas that have high traffic volume of fifty (50) or more vehicle trips per day; or twenty (20) or more vehicle trips per day made by three (3) or more axle vehicles, shall limit VDE to 20% opacity by implementing and maintaining one or more of the following CMPs:
   a. Pave,
   b. Apply Chemical Stabilization as directed by product manufacturer to control dust on Unpaved Roads,
   c. Apply and maintain Gravel, recrushed/recycled asphalt or other material of low Silt (<5%) content to a depth of three or more inches,
   d. Water Application,
   e. Permanent road closure (as allowed by law), or
   f. Restrict unauthorized vehicle access (as allowed by law).

D. Windblown Dust (Category V.A.4)

1. When preparing a field for planting, an owner/operator shall minimize the time that newly tilled soil is smooth and dry by leaving the field surface with large clods for as long as possible and bedding and planting the field as soon as possible once it no longer has large clods.

2. At least one of the following windblown dust CMPs shall be implemented on all agricultural operation sites in addition to CMPs employed pursuant to Section VI.A. and VI.B:
   a. Alternate Tilling,
   b. Application Efficiencies,
   c. Bailing/Large Bales,
   d. Bulk Materials Control,
   e. Chemigation/Fertigation,
   f. Conservation Irrigation,
   g. Fallow Land,
   h. Grinding/Chipping/Shredding,
   i. Integrated Pest Management,
   j. Irrigation Power Units,
   k. Mulching,
   l. Night Farming,
   m. No Burning,
   n. Non Tillage/Chemical Tillage,
   o. Organic Practices,
   p. Permanent Crops,
   q. Reduced Pruning,
   r. Soil Amendments,
   s. Soil Incorporation,
   t. Sulfur: Reduction or Elimination of Dusting,
   u. Surface Roughening,
   v. Transgenic Crops, or
   w. Wind Barrier.

3. If an agricultural operation site has fields that are in between crops or more permanently fallow, the owner/operator shall implement at least one of the following windblown dust CMPs to limit VDE to no more than 20% opacity:
   a. Cover Crop,
   b. Conservation Tillage,
   c. Crop Residue Management,
   d. Cross Wind Stripcropping,
   e. Field Windbreaks,
   f. Ridge Roughness,
   g. Surface Roughening, or
   h. Wind Barrier.

VII. Administrative Requirements

A. CMP Application Preparation

An owner/operator shall prepare and submit a CMP application for each agricultural operation site. Owner/operator must maintain a CMP Plan that corresponds to the current crops being grown in the field. Each CMP Application shall include, but is not limited to, the following information:

1. Name, business name, business address, and phone number of the owner/operator responsible for the preparation and implementation of the CMP Plan.

2. Signature of the owner/operator and date the application was signed.

3. Plot plan or map which contains the following information:

   a. Location of the agricultural operation site;

   b. Location of each agricultural parcel on the agricultural operation site;

   c. Location of unpaved roads and unpaved equipment/traffic areas to be covered by the CMP Plan; and

   d. Location where the CMP Plan will be implemented.

4. Type of crop, AFO, or other use of parcel, and total crop acreage or number of animals.

5. Total length (miles) of unpaved roads and the total area (acres or square feet) of unpaved equipment and traffic areas to be covered by the CMP Plan.

6. List of applicable CMPs being implemented for each crop, unpaved roads, unpaved traffic areas, and windblown dust control. CMPs implemented should be described to verify that implementation is consistent with the CMP definitions in this rule.

7. Any other information as determined by the APCO.

B. CMP Application Submission

An owner/operator shall submit a complete CMP application to the APCO, pursuant to Section VI.A, in accordance with the following schedule:

1. Within 180 days for any new agricultural operation or agricultural parcel that is acquired and becomes subject to the provisions of this Rule.

2. Within 60 days of any modification that necessitates a revision to the CMP Plan. A modification includes, but is not limited to:

a. Administrative changes to any information provided pursuant to Section VII;

b. Implementation of a CMP other than the CMP listed in a CMP Plan;

c. Change of crop type or AFO type on an agricultural parcel; or

d. Any other changes as determined by the APCO.

3. An approved CMP Plan is valid for a period of one year from date of approval. CMP application shall be resubmitted annually, at least 60 days prior to expiration date, or the Plan will be disapproved as of the expiration date. If all circumstances remain identical to those identified in the previously approved CMP Plan, the resubmittal may contain a simple statement of "no-change". Otherwise a resubmittal shall contain all items specified in Section VII.A.

C. CMP Application Review and Evaluation

1. APCO shall:

a. Review the CMP Application and determine whether the submitted CMP Application is complete. Completeness shall be determined by evaluating whether the CMP Application meets the requirements of Section VII.A of this rule and Section I of Rule 301, Permit Fees.

b. Notify the owner/operator in writing after determination of CMP Application completeness and, if applicable, request the owner/operator provide any additional information to the District within 30 days.

c. Evaluate and approve or disapprove the CMP Application and provide written determination to the owner/operator within 180 days after receipt of the complete CMP Application.

2. A CMP Application for modification of a CMP Plan pursuant to Section VII.B.3.a shall be deemed approved as submitted, unless APCO provides written comments to the owner/operator within 30 days of receipt of the CMP Application.

3. A CMP Application for modification of a CMP Plan pursuant to Sections VII.B.3.b, VI.B.3.c, or VI.B.3.d shall be deemed conditionally approved as submitted unless APCO provides written comments to the owner/operator within 30 days of receipt of the CMP Application.

4. The approval of a CMP Application shall not serve to excuse the owner/operator from complying with law, nor shall it excuse any violation.

D. Test Methods

1. Stabilized Surface: See Rule 402, Fugitive Dust, Appendix A, Determination of Stabilization.

2. Visible Crust Determination: See Rule 402, Fugitive Dust, Appendix A, Section II.

3. Line Transect Method: See Rule 402, Fugitive Dust, Appendix A, Section V.A.

4. Opacity: See Rule 402, Fugitive Dust, Appendix B, Visual Determination of Opacity, Section 1.

E. Recordkeeping

1. An owner/operator subject to this rule shall maintain the following records for a minimum of five (5) years:

   a. A copy of each CMP Plan.

   b. Supporting information necessary to confirm implementation of the CMP Plan.

2. An owner/operator claiming an exemption pursuant to Section IV shall maintain records for a minimum of five (5) years demonstrating the agricultural operation site or agricultural parcel qualified for the exemption.

3. An owner/operator shall make all required records available to the APCO, upon request.

F. Loss of Exemption

An owner/operator of an agricultural operation site or agricultural parcel that becomes subject to the provisions of Section IV through loss of exemption shall comply with all applicable provisions of this rule pursuant to the schedule in Section VII.B.

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APPENDIX B:

PROPOSED REVISION RULE 402.2

AGRICULTURAL OPERATIONS

STRIKEOUT UNDERLINE

RULE 402.2 Agricultural Operations - Adopted 3/12/15, Amended XX/XX/XX

I. Purpose

Fugitive dust contains varying sizes of respirable particulate matter including those with an aerodynamic diameter of 10 micrometers or less (PM_{10}). The purpose of this Rule is to prevent, reduce, and mitigate ambient concentrations of anthropogenic fugitive dust emissions generated from agricultural operations through implementation of Conservation Management Practices.

II. Applicability

Provisions of this Rule are applicable to agricultural operations located within the Eastern Kern Air Pollution Control District (District).

III. Definitions

A. Administrative change: A change to a CMP Plan that:

1. Corrects typographical errors;

2. Identifies a change in the name, address, or phone number of any person identified in the CMP Plan, or provides a similar minor administrative change which has no effect on the selected CMPs and does not change any information that could be used to determine emissions reduction; or

3. Allows for the change of ownership or operational control of an agricultural operation site or agricultural parcel.

B. Agricultural Operation: The growing and harvesting of crops or the raising of fowl or animals, for the primary purpose of earning a living, or of conducting agricultural research or instruction by an educational institution.

C. Agricultural Operation Site: One or more agricultural parcels that meet the following:

1. Are under the same or common ownership or operation, or which are owned or operated by entities which are under common control; and

2. Are located on one or more contiguous or adjacent properties wholly within the District jurisdiction.

D. Agricultural Parcel: A portion of real property, including but not limited to, cropland and animal feeding operation (AFO) used by an owner/operator for carrying out a specific agricultural operation. Roads, vehicle/equipment traffic areas, and facilities on or adjacent to the cropland or AFO are part of the agricultural parcel.

E. Alternative Tilling: Till alternative rows for weed management, reducing approximately 50% of field activity related to tilling, in addition to stabilizing soil surface and reducing soil compaction.

F. Air Pollution Control Officer (APCO): Air Pollution Control Officer of the Eastern Kern Air Pollution Control District or his designee.

G. Animal Feeding Operation (AFO): A lot or facility where animals have been, are on, or will be, gathered, fed, or stabled for a total of 45 days or more in any 12 month period and where crops, vegetation, forage growth, or post-harvest residues are not sustained over any portion of the lot or facility (as defined in 40 CFR 122.23 (b) (1)).

H. Application Efficiencies: Use more efficient application equipment so as to reduce a minimum of one ground operation. Examples include: compact or low volume spray equipment; aerial applications; micro-heads or infrared spot sprayers; electrostatic sprayers. Reduces soil compaction, passes and chemical usage.

I. Baling/Large Bales: Reduce a minimum of one pass through the field per acre by using large balers to harvest crops.

J. Bed/Row Size or Spacing: Reduce a minimum of one tillage operation by Increasing or decreasing the size of the planting bed area (can be done for field and permanent crops) or adjusting spacing. Spacing adjustments reduce the number of passes and soil disturbance by increasing plant density/canopy through reduction of row width to contain PM within the canopy.

K. Bulk Materials Control: Minimize visible dust emissions from bulk materials by using dust suppressant or water to form a stabilized surface, or using a tarp to fully cover the pile or truckbed, or using a wind barrier or 3-sided structure to reduce entrainment of fugitive dust.

L. Chemigation/Fertigation: Reduce a minimum of one ground operation by applying chemicals through an irrigation system. This reduces the need to travel in the field for application purposes, thus reducing operations and soil disturbance while increasing the efficiency of the application.

M. Chips/Mulches, Organic Materials, Polymers, Road Oil & Sand: Application of any nontoxic chemical or organic dust suppressant that meets all specification required by any applicable federal, state, or local water agency and is not prohibited for use by any applicable regulations. Chips/Mulches and organic materials should meet the specifications in the mulches definition below. Polymers, road oil and sand should create a stabilized surface during high traffic times such as harvest.

N. Combined Operation: Combine equipment to perform several operations during one pass, thereby reducing a minimum of one tillage operation. Examples include: use of one-pass till equipment in ground preparation or crop tillage; and cultivation and fertilization of a field crop in a single pass. Other benefits are reduction of soil compaction and time to prepare fields, both of which can be precursors to additional tillage requirements. If a combined operation is accomplished through equipment change/technological improvement, that action is considered one CMP, and either Equipment Changes/Technological Improvements CMP or Combined Operations CMP may be selected in a CMP Plan, but not both.

O. Conservation Irrigation: Reduce a minimum of one tillage operation related to weeding by conserving the amount of water used by using either drip, sprinkler, or buried/underground line irrigation. Conserving water reduces weed population, which in turn reduces the need for tillage and reduces soil compaction.

P. Conservation Management Practice (CMP): An activity or procedure that prevents, reduces, or mitigates PM_{10} normally emitted by, or associated with, an agricultural activity.

Q. Conservation Management Practice Plan (CMP Plan): A document prepared by the owner or operator of an Agricultural Operation site that lists the selected CMPs for implementation. The CMP Plan also contains, but is not limited to, contact information for the owner or operator, a description of the Agricultural Operation Site and locations of Agricultural Parcels, and other information describing the extent and duration of CMP implementation.

R. Conservation Management Practice Program (CMP Program): A District program with the purpose of reducing air pollutants from agricultural operation sites.

S. Conservation Tillage (e.g.: no tillage, minimum tillage): A tillage system that reduces a minimum of three tillage operations. This system reduces soil and water loss by reducing the number of passes and by leaving crop residue on the field after harvest as well as managing the residue so that it remains intact during the planting season. It reduces the number of passes and amount of soil disturbance. It improves soil because it retains plant residue and increases organic matter.

T. Contiguous or Adjacent Property: A property consisting of two or more parcels of land with a common point or boundary, or separated solely by a public roadway or other public right-of-way.

U. Cover Crops: Establish cover crops that maintain a minimum of 60 percent ground cover, as determined by the Line Transect Test Method. Native or volunteer vegetation that meets the minimum ground cover requirement is acceptable.

V. Crop Residue Management: Maintain crop residue from previous crops until tilling for the next crop. Crop residues must maintain a minimum of 60 percent ground cover as determined by Line Transect Test Method. Implements such as undercuters or sweeps can maintain crop residues without burying or destroying residues.

W. Cross Wind Stripcropping: Establish crops in parallel strips across the prevailing wind erosion direction and arranged so that strips susceptible to wind erosion are alternated with strips having a protective cover that is resistant to wind erosion. The strips with the protective cover should be at least as wide as the strips susceptible to wind erosion.

X. Equipment Changes/Technological Improvements: Reduce a minimum of one tillage operation by modifying equipment or making technological improvements. Examples include flame cultivation or equipment that combines discing, chiseling and ring rolling. If an equipment change/technological improvement is made in order to combine operations, that action is considered one CMP; either Equipment

Changes/Technological Improvements CMP or Combined Operations CMP may be selected in the CMP plan, but not both.

Y. District: As defined in Rule 102 (Definitions).

Z. Fallow Land: Temporary or permanent removal from production. Eliminates entire operation/passes or reduces activities.

AA. Field Windbreaks: Plant or maintain a single or multiple row of trees or shrubs adjacent to windward edge of the field as close to perpendicular as practical with the direction of erosive winds. Windbreaks such as trees or shrubs should be established at a right angle to the prevailing wind direction. Sites downwind of the windbreak are considered protected if they fall within an area that is less than or equal to 10 times the height of the windbreak. The windbreak should have a porosity of 50 %. This CMP should be implemented consistent with NRCS Code 380 – Windbreak/Shelterbelt Establishment.

BB. Fugitive Dust: As defined in Rule 102 (Definitions).

CC. Gravel: Placing a layer of Gravel at least 3 inches in depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained.

DD. Green Chop: Reduce a minimum of one ground operation by harvesting a forage crop without allowing it to dry in the field. This practice reduces soil disturbance and soil compaction.

EE. Grinding/Chipping/Shredding: Grinding pruning's and orchard removals instead of burning; incorporate to soil. Reduces PM from burning crop residues.

FF. Ground Operation: An agricultural operation that is not a tillage operation that involves equipment passing across the field, such as a chemical spray application. A pass through the field may be a subset of a ground operation.

GG. Hand Harvesting: Reduce a minimum of one ground operation by harvesting a crop by hand. It reduces soil disturbance due to machinery passes.

HH. High-Wind Event: Periods with sustained wind and gusts exceeding 25 miles per hour.

~~HH~~II. Integrated Pest Management: Reduce a minimum of one ground operation by using a combination of techniques including organic, conventional and biological farming concepts to suppress pest problems. It creates beneficial insect habitat that reduces the use of herbicides/pesticides thereby reducing number of passes for spraying. It also reduces soil compaction and the need for additional tillage. If integrated pest management CMP uses the same practices described in the Organic Practices CMP, this action is considered one CMP, and either Integrated Pest Management CMP or Organic Practices CMP may be selected in a CMP plan, but not both.

~~H~~JJ. Irrigation Power Units: Use cleaner burning engines, electric motors (CMP only applicable if engines are cleaner than otherwise required by current local, state and federal requirements).

~~JJ~~KK. Mature Dairy Cow: A cow that has had its first calf.

~~KK~~LL. Mulching: Reducing PM10 emissions and wind erosion and preserving soil moisture by uniformly applying a protective layer of plant residue or other material to a soil surface prior to disturbing the site to reduce soil movement. Mulching material shall be evenly applied, and if necessary, anchored to the soil. Mulch should achieve a minimum 70% cover, and a minimum of 2 inch height above the surface. Inorganic material used for mulching should consist of pieces of .75 to 2 inches in diameter.

~~LL~~MM. Native Vegetation Mowing: Mowing native vegetation in order to leave native plant root systems in place in order to stabilize soil and promote indigenous plant regrowth.

~~MM~~NN. Night Farming: Operate at night when moisture levels are higher and winds are lighter. It decreases the concentration of PM emissions during daytime and the increased ambient humidity reduces PM emissions during the night. Night farming should take place between sundown and sunrise.

~~NN~~OO. Night Harvesting: Implementing harvesting practices at night when moisture levels are higher and winds are lighter. It reduces PM by operating when ambient air is moist, thereby reducing PM emissions. Night harvesting should take place between sundown and sunrise.

~~OO~~PP. No Burning: Switching to a crop/system that would not require waste burning. It reduces emissions associated with burning.

~~PP~~QQ. Non Tillage/Chemical Tillage: Reduce a minimum of one tillage operation by, for example, using a flail mower or low volume sprayers. It reduces soil compaction and stabilizes soil.

~~QQ~~RR. NRCS: The United States Department of Agriculture Natural Resource Conservation Service.

~~RR~~SS. Opacity: As defined in Rule 402, Fugitive Dust.

~~SS~~TT. Organic Practices: Reduce a minimum of one ground or tillage operation by using biological control methods or non-chemical control methods. Examples include: organic certification, biological controls, mulches and humus. If an organic practice CMP uses the same practice as described in the integrated pest management CMP, this action is considered one CMP, and either Organic Practices CMP or Integrated Pest Management CMP may be selected in a CMP plan, but not both.

~~TT~~UU. Owner/Operator: Includes, but is not limited to, any person who leases, supervises, operates equipment, or owns/operates a fugitive dust source, in addition to the normal meaning of owner or operator.

~~UU~~VV Particulate Matter: As defined in Rule 102 (Definitions).

~~VV~~WW. Paved Road: Any road/area that is covered by concrete, asphaltic concrete, asphalt, recycled asphalt, or concrete, which provides structural support for vehicles.

~~WW~~XX. Permanent Crops: Having an established permanent crop that is not replanted annually.

~~XX~~YY. PM_{10}: As defined in Rule 402, Fugitive Dust.

~~YY~~ZZ. Precision Farming (GPS): Reduce a minimum of one pass through the field per acre by using satellite navigation to calculate position in the field, therefore manage/treat the selective area. It reduces overlap and allows operations to occur during inclement weather conditions and at night thereby generating less PM.

~~ZZ~~AAA. Pre-Harvest Soil Preparation: Applying a water or stabilizing material to soil prior to harvest to form a visible crust. It reduces PM emissions at harvest.

~~AAA~~BBB. Reduced Pruning: Reduce a minimum of one ground operation by reducing the frequency of pruning (e.g. one time per year, or every other year).

~~BBB~~CCC. Restricted Access: To restrict or eliminate public access to unpaved private roads with signs or physical obstructions. At each access point, install signs or physical barriers such as gates, fencing, posts, signs, shrubs, trees that block or effectively control access to the area. It reduces vehicle traffic and thus reduces associated fugitive dust.

~~CCC~~DDD. Ridge Roughness: Establish stabilized ridges , sufficient to meet the definition of stabilized surface, by normal tillage and planting equipment as close to perpendicular as practical with the direction of erosive winds (not appropriate for unstable soils such as sands or loamy sands). After establishment, ridges shall be maintained through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion. Ridge spacing should be no greater than 4 times the ridge height. This CMP should be implemented consistent with NRCS Code 588 -- Cross Wind Ridges.

~~DDD~~EEE. Road: Any road or street, highway, freeway, alley, way, access easement or driveway.

~~EEE~~FFF. Road Mix: A mixture of tank bottoms from crude oil storage tanks, material from crude oil spills, or other crude-oil-containing soil mixed with aggregates and ~~soils, that~~soils that are used as a base cover materials for roads, parking lots, berms, tank and well locations, or similar applications.

~~FFF~~GGG. Shed Packing: Reducing a minimum of one pass through the field per acre by packing commodities in a covered or closed area, rather than field-pack. It reduces field traffic, thereby reducing PM emissions.

~~GGG~~HHH. System/Large Carrier: Reduce a minimum of one pass through the field per acre by hauling multiple or larger trailers/bins per trip.

~~HHH~~III. Soil Amendments: Organic or chemical materials uniformly applied to the soil for improvement (e.g: gypsum, lime, polyacrylamide).

~~III~~JJJ. Speed Limits: Control speed limits to 15 mph on unpaved roads through worker behavior modifications, signage, or any other necessary means.

~~JJJ~~KKK. Stabilized Surface: As defined in Rule 402, Fugitive Dust.

~~KKK~~LLL. Sulfur Reduction or Elimination: Reduce a minimum of one ground operation by reducing or eliminating sulfur dusting, an organic chemical used to control disease in crop, ornamental and home and gardens.

~~LLL~~MMM. Surface Roughening: Produce and maintain stable clods or aggregates on the land surface, sufficient to meet the definition of stabilized surface, by bedding, rough disking, or tillage that leaves the surface covered by stable clods. Soil clods prevent wind erosion because they resist the forces of the wind and because they shelter other erodible materials. This CMP should be implemented consistent with NRCS Code 609 – Surface Roughening.

~~MMM~~NNN. Tillage Operation: An agricultural operation that mechanically manipulates the soil for the enhancement of crop production. Examples include discing, weeding, or bedding. A pass through the field may be a subset of a tillage operation.

~~NNN~~OOO. Track-Out Control: Minimize any and all material that adheres to and agglomerates on all vehicle and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road. Install one of the following devices: a grizzly, a gravel pad or a wheelwash system at all intersections of unpaved roads and public roads. Track-out control should be implemented pursuant to Rule 402, Fugitive Dust, Section V.F.~~E.~~

~~OOO~~PPP. Transgenic Crops: Use of GMO or Transgenic crops such as “herbicide-ready” to reduce a minimum of one tillage operation. It reduces the need for tillage or cultivation operations, as well as reduces soil disturbance. It can also reduce the number of chemical applications.

~~PPP~~QQQ. Unpaved Road: Any road that is not covered by one of the materials described in the paved road definition.

~~QQQ~~RRR. Unpaved Vehicle/Equipment Traffic Area: Any nonresidential area that is not covered by asphalt, recycled asphalt, asphaltic concrete, concrete, or concrete pavement that is used for fueling and servicing; shipping, receiving and transfer; or parking or storing equipment, haul trucks, vehicles, and any conveyances.

~~RRR~~SSS. Visible Dust Emissions (VDE): Dust emissions visible to an observer. Opacity observations to determine compliance with VDE standards shall be conducted in

accordance with the test procedures for "Visual Determination of Opacity" as described in Appendix B of Rule 402, Fugitive Dust.

~~SSS~~TTT. Vehicle: As defined in Rule 102 (Definitions).

~~TTT~~UUU. Water Application: Application of water to unpaved roads and traffic areas to create a visibly moist surface.

UUU. Wind Barriers (Herbaceous): Reduce wind erosion by planting or maintaining perennial or annual plants established in rows or narrow strips interspersed throughout a crop field as close to perpendicular as practical with the direction of erosive winds. This CMP should be implemented consistent with NRCS Code 603 – Herbaceous Wind Barriers. The selected plant(s) must stand at least three feet tall, with a porosity of 50%.

IV. Exemptions

A. Except for the recordkeeping requirements of Section VII.E.2, provisions of this rule shall not apply to:

1. Agricultural operation site where the total acreage of all agricultural parcels is less than 10 acres.

2. Woodland and wasteland not actually under cultivation or used for pasture.

3. Land placed in the Conservation Reserve Program meeting the definition and criteria set by the NRCS.

4. Agricultural operation parcel used for the purpose of:
   a. Propagating young trees, shrubs, or other miscellaneous crops for transplanting, and exhibiting plants under controlled conditions inside a building with walls and roof;
   b. Providing grazing rangeland or pasture; or
   c. Forestry, including but not limited to timber harvest operations, silvicultural practices, forest management burning, or forest protection practices.

5. AFO of mature dairy cows with less than 500 mature dairy cows, whether milked or dry.

6. AFO of cattle, other than mature dairy cows or veal calves, with less than 190 cattle, other than mature dairy cows or veal calves. Cattle includes, but not limited to, heifers, steers, bulls and cow/calf pairs.

7. AFO of turkeys with less than 55,000 turkeys.

8. AFO of chickens, other than laying hens, with less than 125,000 chickens.

9. AFO of laying hens with less than 82,000 laying hens.

10. AFO other than an AFO for mature dairy cows, cattle, turkeys, chickens, or laying hens.

B. Exemption from his rule does not exempt the owner/operator from any other District Rules or Regulations.

V. Requirements

A. ~~Effective upon adoption of this rule, a~~An owner/operator of an agricultural operation site of ten (10) acres or more, shall implement at least one (1) CMP for each of the following categories (1 through 4), and perform all related requirements, on each agricultural parcel, pursuant to the schedule listed in Section VII.B:

1. Land Preparation and Cultivation, (CMPs located in Section VI.A);
2. Harvest Activities, (CMPs located in section VI.B);
3. Unpaved Roads and Traffic Areas, (CMPs located in Section VI.C);
4. Windblown Dust, (CMPs located in Section VI.D).

CMPs are not required for categories 1 and 2 on parcels implementing Conservation Tillage. However, Conservation Tillage parcels shall still implement CMPs for categories 3 and 4.

B. Pursuant to Section VII of this Rule, an owner/operator shall prepare and submit a CMP application for each agricultural operation site to the APCO for approval. A CMP application approved by the APCO shall constitute a CMP Plan.

C. Except as provided in Section V.D. an owner/operator shall implement the approved CMP Plan for each agricultural operation site pursuant to Section VII, no later than ten (10) days after receiving CMP Plan approval from the APCO.

D. An owner/operator that discontinues implementation of a CMP as committed to in an approved CMP Plan, or makes other changes inconsistent with the CMP Plan, shall comply with the requirements of Section VII.B.3.

E. An owner/operator shall ensure that implementation of each selected CMP does not violate any other local, state, or federal law.

F. An owner/operator shall avoid tilling or harvesting the day before a forecast high-wind event or during a high-wind event.

VI. Conservation Management Practices

An owner/operator subject to the requirements of this rule shall implement on each agricultural parcel, at least one CMP from each of the following source categories listed below. An owner/operator of Fallow Land must comply with Section VI.D.3.

A. Land Preparation and Cultivation (Category V.A.1)

1. Alternative Tilling,

2. Bed/Row Size Spacing,
3. Chemigation/Fertigation,
4. Combined Operations,
5. Conservation Irrigation,
6. Cover Crops,
7. Equipment Changes/Technological Improvements,
8. Fallow Land,
9. Integrated Pest Control,
10. Mulching,
11. Native Vegetation Mowing,
12. Night Farming,
13. Non Tillage/Chemical Tillage,
14. Organic Pesticides,
15. Precision Farming (GPS), or
16. Transgenic Crops.

B. Harvest Activities (Category V.A.2).

1. Baling /Large Bales,
2. Combined Operations,
3. Equipment Changes/Technological Improvements,
4. Green Chop,
5. Hand Harvesting,
6. Fallow Land,
7. Night Harvesting,
8. No Burning,
9. Pre-Harvesting Soil Preparation,
10. Shed Packing, or
11. Shuttle System/Large Carrier.

C. Unpaved Roads and Traffic Areas (Category V.A.3)

1. At least one of the following CMPs shall be implemented, at all times, on all unpaved roads and traffic areas on agricultural operation site:

    a. Chips/Mulches, Organic Materials, polymers, road oil and sand,
    b. Gravel,
    c. Paving,
    d. Restricted access,
    e. Low Speed limit (15 mph or less),
    f. Track-out control,
    g. Water Application, or
    h. Field windbreak.

2. Unpaved roads or traffic areas that have high traffic volume of fifty (50) or more vehicle trips per day; or twenty (20) or more vehicle trips per day made by three (3) or more axle vehicles, shall limit VDE to 20% opacity by implementing and maintaining one or more of the following CMPs:

a. Pave,
b. Apply Chemical Stabilization as directed by product manufacturer to control dust on Unpaved Roads,
c. Apply and maintain Gravel, recrushed/recycled asphalt or other material of low Silt (<5%) content to a depth of three or more inches,
d. Water Application,
e. Permanent road closure (as allowed by law), or
f. Restrict unauthorized vehicle access (as allowed by law).

D. Windblown Dust (Category V.A.4)

1. When preparing a field for planting, an owner/operator shall minimize the time that newly tilled soil is smooth and dry by leaving the field surface with large clods for as long as possible and bedding and planting the field as soon as possible once it no longer has large clods.

2. At least one of the following windblown dust CMPs shall be implemented on all agricultural operation sites in addition to CMPs employed pursuant to Section VI.A. and VI.B:

a. Alternate Tilling,
b. Application Efficiencies,
c. Bailing/Large Bales,
d. Bulk Materials Control,
e. Chemigation/Fertigation,
f. Conservation Irrigation,
g. Fallow Land,
h. Grinding/Chipping/Shredding,
i. Integrated Pest Management,
j. Irrigation Power Units,
k. Mulching,
l. Night Farming,
m. No Burning,
n. Non Tillage/Chemical Tillage,
o. Organic Practices,
p. Permanent Crops,
q. Reduced Pruning,
r. Soil Amendments,
s. Soil Incorporation,
t. Sulfur: Reduction or Elimination of Dusting,
u. Surface Roughening,
v. Transgenic Crops, or
w. Wind Barrier.

3. If an agricultural operation site has fields that are in between crops or more permanently fallow, the owner/operator shall implement at least one of the following windblown dust CMPs to limit VDE to no more than 20% opacity:

a. Cover Crop,

b. Conservation Tillage,
c. Crop Residue Management,
d. Cross Wind Stripcropping,
e. Field Windbreaks,
f. Ridge Roughness,
g. Surface Roughening, or
h. Wind Barrier.

VII. Administrative Requirements

A. CMP Application Preparation

An owner/operator shall prepare and submit a CMP application for each agricultural operation site. Owner/operator must maintain a CMP Plan that corresponds to the current crops being grown in the field. Each CMP Application shall include, but is not limited to, the following information:

1. Name, business name, business address, and phone number of the owner/operator responsible for the preparation and implementation of the CMP Plan.

2. Signature of the owner/operator and date the application was signed.

3. Plot plan or map which contains the following information:

   a. Location of the agricultural operation site;

   b. Location of each agricultural parcel on the agricultural operation site;

   c. Location of unpaved roads and unpaved equipment/traffic areas to be covered by the CMP Plan; and

   d. Location where the CMP Plan will be implemented.

4. Type of crop, AFO, or other use of parcel, and total crop acreage or number of animals.

5. Total length (miles) of unpaved roads and the total area (acres or square feet) of unpaved equipment and traffic areas to be covered by the CMP Plan.

6. List of applicable CMPs being implemented for each crop, unpaved roads, unpaved traffic areas, and windblown dust control. CMPs implemented should be described to verify that implementation is consistent with the CMP definitions in this rule.

7. Any other information as determined by the APCO.

B. CMP Application Submission

An owner/operator shall submit a complete CMP application to the APCO, pursuant to Section VI.A, in accordance with the following schedule:

~~1. Within 210 days after adoption of this rule, for existing agricultural operation(s).~~

~~2. Within 180 days after adoption of this rule, for agricultural operation(s) or agricultural parcel(s) that are acquired and become subject to the provisions of this Rule after adoption date.~~

1. Within 180 days for any new agricultural operation or agricultural parcel that is acquired and becomes subject to the provisions of this Rule.

~~3~~2. Within 60 days of any modification ~~(operational, administrative, or other)~~ that necessitates ~~the~~ a revision ~~of~~ to the CMP Plan. A modification includes, but is not limited to:

a. Administrative changes to any information provided pursuant to Section VII;

b. Implementation of a CMP other than the CMP listed in a CMP Plan;

c. Change of crop type or AFO type on an agricultural parcel; or

d. Any other changes as determined by the APCO.

~~4~~3. An approved CMP Plan is valid for a period of one year from date of approval. CMP application shall be resubmitted annually, at least 60 days prior to expiration date, or the Plan will be disapproved as of the expiration date. If all circumstances remain identical to those identified in the previously approved CMP Plan, the resubmittal may contain a simple statement of "no-change". Otherwise a resubmittal shall contain all items specified in Section VII.A.

C. CMP Application Review and Evaluation

1. APCO shall:

a. Review the CMP Application and determine whether the submitted CMP Application is complete. Completeness shall be determined by evaluating whether the CMP Application meets the requirements of Section VII.A of this rule and Section I of Rule 301, Permit Fees.

b. Notify the owner/operator in writing after determination of CMP Application completeness and, if applicable, request the owner/operator provide any additional information to the District within 30 days.

c. Evaluate and approve or disapprove the CMP Application and provide written determination to the owner/operator within 180 days after receipt of the complete CMP Application.

2. A CMP Application for modification of a CMP Plan pursuant to Section VII.B.3.a shall be deemed approved as submitted, unless APCO provides written comments to the owner/operator within 30 days of receipt of the CMP Application.

3. A CMP Application for modification of a CMP Plan pursuant to Sections VII.B.3.b, VI.B.3.c, or VI.B.3.d shall be deemed conditionally approved as submitted unless APCO provides written comments to the owner/operator within 30 days of receipt of the CMP Application.

4. The approval of a CMP Application shall not serve to excuse the owner/operator from complying with law, nor shall it excuse any violation.

D. Test Methods

1. Stabilized Surface: See Rule 402, Fugitive Dust, Appendix A, Determination of Stabilization.

2. Visible Crust Determination: See Rule 402, Fugitive Dust, Appendix A, Section II.

3. Line Transect Method: See Rule 402, Fugitive Dust, Appendix A, Section V.A.

4. Opacity: See Rule 402, Fugitive Dust, Appendix B, Visual Determination of Opacity, Section 1.

E. Recordkeeping

1. An owner/operator subject to this rule shall maintain the following records for a minimum of five (5) years:

   a. A copy of each CMP Plan.

   b. Supporting information necessary to confirm implementation of the CMP Plan.

2. An owner/operator claiming an exemption pursuant to Section IV shall maintain records for a minimum of five (5) years demonstrating the agricultural operation site or agricultural parcel qualified for the exemption.

3. An owner/operator shall make all required records available to the APCO, upon request.

F. Loss of Exemption

An owner/operator of an agricultural operation site or agricultural parcel that becomes subject to the provisions of Section IV through loss of exemption shall comply with all applicable provisions of this rule pursuant to the schedule in Section VII.B.

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APPENDIX C:

CONSERVATION MANAGEMENT PRACTICES LIST

LIST OF CONSERVATION MANAGEMENT PRACTICES

MARCH 12, 2015

CROPLAND - LAND PREPARATION / CULTIVATION

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Alternate Till	Rotate tillage leaving residue on soil	Tilling alternate rows for weed management allows for approximately 50% reduction in field activity. Stabilizes soil surface, reduces soil compaction	Tillage of alternate rows, of vineyard and orchards, thereby reducing passes across field.
Bed-row size or spacing	Increase or decrease the size of the planting area bed (can be done for field and permanent crops)	Reduces the number of passes and soil disturbance by increasing plant density/canopy thru reduction of row width, overhead vineyard production systems, containment of PM within canopy	Planting multi- rows on a wide bed, e.g. tomatoes or melons 2- rows on 60", Narrow row planting of cotton can reduce two to three cultivation passes; overhead vineyard system of vineyards can reduce cultivation and pesticides by shading unwanted vegetation that reduces the need for cultivation and pesticides, other planting systems may have similar benefits, including but not limited to using 80" wide-bed system as well as a 60"system for either cotton or vegetable planting.
Chemigation/Fertigation	Application of chemicals thru an irrigation system	Each application reduces the need to travel in-field for application purposes. Reduces the number of passes and soil disturbance, increases efficiency for application	During irrigation, add herbicide or fertilizer through water application; also includes aerial application
Combined operations	To combine equipment, to perform several operations during one pass	Reduction in the number of passes necessary to cultivate the land will result in fewer disturbances to the soil. Other benefits are reduction of soil compaction and time to prepare fields, both of which can be precursors to additional tillage requirements	Combining cane cutting, discing and flat- furrowing in a single pass for vineyards, use of one- pass till equipment in ground preparation or crop tillage, cultivation and fertilization of field crop in a single pass
Conservation irrigation	To conserve the quantity of water use, e.g.: drip, sprinkler, buried/underground line	Conserves water, reduces weed population, which in turn reduces the need for tillage and reduces soil compaction.	Use drip, or buried line (including permanent or semi-permanent line) in crop production, use of pressure bombs, water flow meters or soil monitoring devices to avoid over-irrigation, using irrigation management consultants, adopting the use of Evapo-transpiration factors

CROPLAND - LAND PREPARATION / CULTIVATION (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Conservation tillage (e.g.: no tillage, minimum tillage)	Types of tillage that reduce loss of soil and water in comparison to conventional tillage	Reduces the number of passes, soil disturbance. It improves soil because it retains plant residue and increases organic matter.	Converting to no or low till operations, implement reduced till activities, adding soil/ water amendments to improve resource and reduce tillage needs
Cover crops	Use seeding or natural vegetation/regrowth of plants to cover soil surface	Reduces soil disturbance due to wind erosion and entrainment.	Plant or allow volunteer vegetation to grow in crop without tilling under thereby reducing tillage and increasing stabilizing of that portion of soil
Equipment changes/Technological improvements	To modify the equipment such as combines, cotton pickers, tilling and harvesting equipment, increase equipment size, modify land planing and land leveling, matching the equipment to row spacing, grafting to new varieties or technological improvements	Reduces the number of passes during an operation, therefore reducing soil disturbance.	Convert from conventional raisin operation to D.O.V. or overhead, grafting to new varieties, increase harvester head size to reduce passes, increase tillage equipment size to reduce passes and flame cultivation
Fallowing land	Temporary or permanent removal from production. (e.g.: vineyard pullout, Raisin Industry Diversion program, wildlife/wetlands conservation program)	Eliminates entire operation/passes or reduces activities.	Leaving a portion of field untilled, Install an NRCS approved practice.
Floor management	Smoothing and flattening the soil surface after nut harvest to remove post-harvest residue; maintain clean, smooth, firm floor throughout season by elimination of disking	Reduces passes thru elimination of disking	Maintain level floor, chemical treatment, use one-pass tillage practices, irrigation or otherwise firming of soil to prevent PM

CROPLAND - LAND PREPARATION / CULTIVATION (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Integrated Pest Management	A decision process which uses a combination of techniques including organic, conventional, biological farming practices to suppress pests problems	Reduces use of herbicide/pesticide therefore reducing number of passes for spraying, reduced soil compaction, reducing the need for additional tillage, creates beneficial insect habitat, reducing the need for spray passes.	Monitoring crop for pests to accurately and effectively apply control measures, use county Farm Advisor thresholds for spray timing, incorporate biological practices into farming operation to reduce need for spraying
Mulching	Applying or leaving plant residue or other material to soil surface	Reduces entrainment of PM due to winds, reduces weed competition thereby reducing tillage passes & compaction.	May include organic material, gypsum, lime, humus, pre-plant ground covers or plastic mulches for vegetables
Night farming	Operate at night where practical when moisture levels are higher and winds are lighter	Decreases the concentration of PM emissions during daytime, increased ambient humidity reduces PM during high emissions periods	Increased humidity increases soil surface moisture thereby helping contain PM emissions from tillage.
Non tillage / Chemical tillage	Use flail mower, low volume sprayers, use heat delivery system (as harvest pre-conditioner)	Reduces soil compaction, stabilizes soil through elimination or reduction of soil tillage passes	Leaving residue on surface after mowing, using pre-emergent or contact herbicides, scorching of weeds or foliage, mulch to smother weed competition. Semi-permanent crops e.g.: alfalfa will require no tillage.
Organic Practices	Use biological control methods and/or use non-chemical control methods	Reduces chemical use, thereby reducing passes	Organic certification, biological controls mulches, humus,
Precision farming (GPS)	e.g.: GPS, using satellite navigation to calculate position in the field, therefore manage/treat selective area	Reduces overlap, allows operations during inclement weather conditions and at night.	Install overlap reduction technology, pass markers, variable rate application technology, use petiole and soil sampling to reduce unnecessary applications
Time of planting	To modify the time of planting	Assists in distributing PM10 emissions to a period when there's less PM concentration.	When possible plant early season, i.e. tomatoes, sugar beets, vegetables, some tree varieties, includes seasonality and time of day.
Transgenic crops	Use of GMO or Transgenic crops	Reduces need for tillage or cultivation operations, reduces soil disturbance.	May include genetically altered seed, nematode resistant rootstock, grafting
Transplanting	Planting plants already in a growth state	Reduces soil disturbance and number of passes compared to using seeding	Instead of direct seeding, use transplants to avoid tillage; viable in vegetable crops

CROPLAND – HARVEST

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Baling/Large Balers	Using balers to harvest crop	Reduce PM emissions from chopping, truck passes, residue burning	Bale forage, grain stubble, or crop residue
Combined operations	To combine equipment, performing several operations during one pass	Reduction in number of passes necessary to harvest the crop, will result in fewer disturbances to the soil and reduced soil compaction.	Boll buggies, bank-out wagons, bulk movement of commodity from field, gondolas, combined shredding and incorporation
Continuous tray/D.O.V., New drying techniques for dried fruit	Any technology to reduce labor and tillage	Reduces the number of equipment passes, field entry, and soil erosion	Will reduce passes in field because of change in technology to dry fruit, i.e. terracing and throwing back in raisin operation
Equipment changes/Technological improvements	To modify the equipment such as combines, cotton pickers, tilling and harvesting equipment, increase equipment size, modify land planning and land leveling, matching the equipment to row spacing, and technological improvements	Reduces the number of passes during an operation, therefore reducing soil disturbance.	Convert cotton operation from 2 to 4 or greater. Convert from conventional raisin operation to D.O.V. or overhead, changing variety, increase harvester head size to reduce passes, increase tillage equipment size to reduce passes
Fallowing land	Temporary or permanent removal from production. (e.g.: vineyard pullout, Raisin Industry Diversion program, wildlife/wetlands conservation program)	Eliminates entire operation/passes or reduces activities.	remove or leave out an area of farm from planting to reduce need for tillage pesticide application, harvest requirements
Floor management	Smoothing and flattening the soil surface after nut harvest to remove post-harvest residue; maintain clean, smooth, firm floor throughout season by elimination of disking	Allows for proper calibration of harvest equipment to reduce soil surface disturbance.	Maintain level floor, chemical treatment, use one-pass tillage practices, irrigation or otherwise firming of soil to prevent PM

CROPLAND – HARVEST (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Green Chop	The harvesting of a forage crop without allowing it to dry in the field.	Reduces multiple equipment passes in-field, reduces soil disturbance, reduces soil compaction, and reduces dust emissions from dry materials.	Alfalfa, winter forage, silage corn.
Hand harvesting	Harvesting crop by hand	Reduces soil disturbance due to machinery passes.	Increased humidity may increase soil surface moisture thereby helping contain PM emissions from tillage.
Night Harvesting	Implementing cultural practices at night, or at times of high humidity.	Reduces PM by operating when ambient air is moist, thereby reducing emissions.	Non- burning may include eliminating burning of paper tray drying materials
No burning	Switching to a crop/system that would not require waste burning	Reduces emissions associated with burning	A light application of water to soil prior to garlic harvest, to help control dust.
Pre-Harvest soil preparation	Applying a light amount of water or stabilizing material to soil prior to harvest (when possible)	Reduces PM emissions at harvest	Moving crops out of field, by way of bulk transport systems, to a designated pack area.
Shed Packing	Packing commodities in a covered or closed area	Reduces field traffic, thereby reducing PM emissions	Boll buggies, cotton modules versus trailers, bank-out wagons, gondolas, bulk movement of commodity from field
Shuttle system/larger carrier	Multiple bin/trailer	Haul multiple or larger trailers/bins per trip thereby reducing emissions through reduced passes.	Increased humidity may increase soil surface moisture thereby helping contain PM emissions from tillage.

CROPLAND - OTHER

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Alternate Till	Rotate tillage, leaving residue on soil	Tilling alternate rows for weed management allows for approximately 50% reduction in field activity. Stabilizes soil surface, reduces soil compaction, and reduces windblown dust.	Tillage of alternate rows, of vineyard and orchards, thereby reducing passes across field.
Application Efficiencies	Use compact, low volume, or concentrate quantity with spray equipment, aerial applications, use micro-heads or infrared spot sprayer, electrostatic sprayers	Reduces soil compaction, passes, and chemical usage	Low volume sprayer heads, photosynthetic i.d heads, hand- spot spraying, variable rate applicators & shielded sprayers, to reduce spray emissions and apply spray to desired pest.
Baling/Large Balers	Using balers to harvest crop	Reduce PM emissions from chopping, truck passes, residue burning	Bale forage, grain stubble, or crop residue.
Bulk materials control	Minimize visible dust emissions from bulk materials	Reduces entrainment of fugitive dust	To apply water or suitable chemical/organic , or cover the bulk materials with tarps, plastic or suitable material, or construct wind barriers surrounding the bulk materials
Chemigation/ Fertigation	Application of chemicals thru an irrigation system	Each application reduces the need to travel in-field for application purposes. Reduces the number of passes and soil disturbance, increases efficiency for application	During irrigation, add herbicide or fertilizer through water application; also includes aerial application.
Conservation irrigation	To conserve the quantity of water use, e.g.: drip, sprinkler, buried/underground line	Conserves water, reduces weed population, which in turn reduces the need for tillage and reduces soil compaction.	Use drip, or buried line (including permanent or semi-permanent line) in crop production, use of pressure bombs, water flow meters or soil monitoring devices to avoid over-irrigation, using irrigation management consultants, adopting the use of Evapo-transpiration factors
Cover crops	Use seeding or natural vegetation/regrowth of plants to cover soil surface	Reduces soil disturbance due to wind erosion and entrainment, improves water penetration, increases organic matter, improves soil's ability to be tilled	Plant or allow volunteer vegetation to grow in crop without tilling under thereby reducing tillage and increasing stabilizing of that portion of soil
Fallowing land	Temporary or permanent removal from production. (e.g.: vineyard pullout, Raisin Industry Diversion program, wildlife/wetlands conservation program)	Eliminates entire operation/passes or reduces activities.	Remove or leave out an area of farm from planting to reduce need for tillage pesticide application, harvest requirements

CROPLAND - OTHER (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Grinding/Chipping/ Shredding	Grinding prunings and orchard removals, instead of burning, incorporate to soil, to reduce emissions	Reducing PM from burning crop residues.	Using Bio-mass, chippers rather than burning to grind broken or downed limbs, flailing of vegetation instead of tilling, send prunings, and/or orchard removal material to power co-gen plants, compost residue and use for soil amendment, or, incorporate into soil.
Integrated Pest Management	A decision process which uses a combination of techniques including organic, conventional, biological farming practices to suppress pests problems	Reduces use of herbicide/pesticide therefore reducing number of passes for spraying, reduced soil compaction, reducing the need for additional tillage, creates beneficial insect habitat, reducing the need for spray passes.	Monitoring crop for pests to accurately and effectively apply control measures, use county Farm Advisor thresholds for spray timing
Irrigation Power Units	Use cleaner burning engines, electric motors (CMP only applicable if engines are cleaner than current rule requirements)	Reduces PM and NOx emissions.	New Tier II engines, electric motor, other alternative fuels.
Mulching	Applying plant residue or other material to soil surface or incorporating into soil.	Reduces entrainment of PM due to winds, reduces weed competition thereby reducing passes, compaction.	May include organic material, gypsum, lime, humus, pre-plant ground covers
Night farming	Operate at night where practical when moisture levels are higher and winds are lighter	Decreases the concentration of PM emissions during daytime, increased ambient humidity reduces PM during high emissions periods, reduces PM10 precursors.	Increased humidity increases soil surface moisture thereby helping contain PM emissions from tillage. Night time spraying.
No burning	Switching to a crop/system that would not require waste burning	Reduces practices associated with pruning and chipping	Non- burning may include; pesticide and seed containers, weeds, prunings, other residual crop residues.
Non tillage / Chemical tillage	Use flail mower, low volume sprayers, e.g.: use heat delivery system for cotton defoliation	Reduces soil compaction, stabilizes soil through elimination or reduction of soil tillage passes	Leaving residue on surface after mowing, using pre-emergent or contact herbicides, scorching of weeds instead of tilling, mulch to smother weed competition
Organic Practices	Use biological control methods, use non-chemical control methods	Reduces chemical use	Organic certification, biological controls mulches, humus.

CROPLAND - OTHER (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Permanent Crops	Having an established permanent crop	Reduces incidence of wind-blown dust	Trees, Vines or certain semi-permanent field crops
Reduced pruning	Reduce frequency of pruning (e.g.: one time per year, or every other year)	Reduces soil disturbance due to machinery passes and reduce fuel use.	Topping, hedging, alternate row pruning, alternate year pruning
Soil amendments	Organic or chemical materials applied to the soil for improvement (e.g.: gypsum, lime, polyacrylamide) .	Increase moisture retention, reduce soil compaction, and stabilize soil.	May include Organic material, gypsum, lime, humus, pre-plant ground covers
Soil incorporation	Disking residues and/or soil incorporation of residue	Reduces emissions from burning.	May include discing of chips or crop residue at site, movement to other points on farm or other farms for incorporation, use chips or grindings for bio-mass, humus
Sulfur - reduction or elimination of dusting	Organic chemical used to control disease in crop, ornamental and home and gardens	Reduced dry particulates.	Control disease through alternative measures such as, wettable sulfur, biological or other controls
Surface roughening	Leaving soil surface as it stands or clods of soil when fallow, preparing planting surface perpendicular to wind direction	Reduces entrainment of PM due to winds	Till perpendicular to predominate wind direction. Can be used in the SJV especially during the high wind period such as March -June to reduce geologic emissions.
Transgenic crops	Use "herbicide-ready"	Reduces soil disturbance and weeding passes, and lessens drift.	May include genetically altered seed, nematode resistant rootstock, grafting
Wind barrier	Artificial or vegetative wall/fence that disrupts the erosive flow of wind over unprotected land	Reduces entrainment of PM due to winds	Plant various wind breaks around farmstead with plants such as, oleanders, eucalyptus, juniper, and native grass.

CROPLAND - UNPAVED ROADS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Chips / Mulches **Organic Materials** **Polymers** **Road oil** **Sand**	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VIII for additional requirements and see Agriculture Improving Resources (AIR) Partner's list of products	Reduces entrainment of fugitive dust	Application of suppressant to areas meeting the vehicle trips per day threshold
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Mechanical Pruning	Using a machine instead of hand labor to prune	Reduced vehicle trips, thereby reducing PM emissions	Pruning style can include tree hedging, topping, summer pruning, trimming, vineyard hedging or other mechanical pruning operations
Paving	To pave currently unpaved roads	Prevent dust from vehicle traffic	To pave unpaved roads
Restricted Access	To restrict public access to private roads	Reduces vehicle traffic and thus reduces associated fugitive dust	To install a device which will limit use of road on or surrounding an operation
Speed Limits	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed meaning reducing speed reduces dust	Posting speed limits on or surround the operation

CROPLAND - UNPAVED ROADS (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Track out control	Minimize any and all material that adheres to and agglomerates on all vehicles and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road	Reduces entrainment of fugitive dust	Accomplished by maintaining sufficient length of paved/ graveled interior roads to allow mud and dirt to drop off vehicles before exiting the site; or use of a grizzly to dislodge debris from tires and undercarriage of vehicles leaving site.
Water	Application of water to unpaved roads and traffic areas	Reduces entrainment of fugitive dust	Application of water to areas meeting a vehicle trip threshold
Wind barrier	Artificial or vegetative wall/fence that disrupts the erosive flow of wind over unprotected land	Reduces entrainment of fugitive dust due to winds	Plant various wind breaks around farmstead with plants such as, oleanders, eucalyptus, juniper native grass or tillage perpendicular to field till, etc

CROPLAND-UNPAVED VEHICLE/EQUIPMENT TRAFFIC AREAS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Chips / Mulches	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VIII for additional requirements	Reduces entrainment of fugitive dust	Application of suppressant to areas meeting the vehicle trips per day threshold
Organic Materials			
Polymers			
Road oil			
Sand			

CROPLAND-UNPAVED VEHICLE/EQUIPMENT TRAFFIC AREAS (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Paving	To pave currently unpaved areas	Prevent dust from vehicle traffic	To pave unpaved areas
Restricted Access	To restrict public access to private roads	Reduces vehicle traffic and thus reduces associated fugitive dust	To install a device which will limit use of road on or surrounding an operation
Speed Limits	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed meaning reducing speed reduces dust	Posting speed limits on or surround the operation
Track out control	Minimize any and all material that adheres to and agglomerates on all vehicles and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road	Reduces entrainment of fugitive dust	Accomplished by maintaining sufficient length of paved/ graveled interior roads to allow mud and dirt to drop off vehicles before exiting the site; or use of a grizzly to dislodge debris from tires and undercarriage of vehicles leaving site.
Water	Application of water to unpaved roads and traffic areas	Reduces entrainment of fugitive dust	Application of water to areas meeting a vehicle trip threshold
Wind barrier	Artificial or vegetative wall/fence that disrupts the erosive flow of wind over unprotected land	Reduces entrainment of fugitive dust due to winds	Plant various wind breaks around farmstead with plants such as, oleanders, eucalyptus, juniper native grass or tillage perpendicular to field till, etc.

CROPLAND-Glossary of terms

Term	Definition
Alternate	To do activity in an every-other-month rotation, or every-other row fashion
Bed, Bed Row	A surface prepared for the planting of seeds or crop
Chemigation	Applying chemicals through an irrigation system
Disturb, Disturbance	To work the soil in a fashion where it would no longer be in a firm or stable state
Disc,Disk,Disking	An implement designed and used, when pulled behind a tractor, mixes soil and eliminates weeds
Equipment	Implement of farm husbandry including but not limited to; tractor, disk, plow, spray machine, cultivator, trailer.
Fertigation	Applying plant nutrients through an irrigation system
Floor	The area of ground that is between the width of trees or vines. Also called the centers.
Tillage	Using an implement to disturb the soil surface or sub-surface
Non-Tillage	A system whereby the soil is not moved through mechanical means

POULTRY OPERATIONS - MANURE HANDLING & STORAGE

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Time of manure spreading	To spread the manure at a time that would help reduce the amount of PM10 released in the air	Reduces the amount of fugitive dust released in the air	To spread manure during cooler times of day such as morning or evening and during times of low wind.
Cleanout frequency	To adjust the frequency of cleanouts from the houses	Reduces particulates released from poultry litter/manure accumulating or stored inside houses. The less disturbance and handling of the litter/manure, the less emissions. Any time poultry bedding material is moved, some of the bulk material may become airborne. The bedding may be used for several grow out cycles before it becomes so laden with waste that it is unsuitable for continued use. Optimizing the reuse of the bedding material can reduce the number of material transfers, thus the opportunity for some of the material to become airborne. Implementation of this CMP implies that the generation of dust will become a factor in the determination to perform a house clean-out, and more reuse of bedding is anticipated.	To allow bedding materials and manure to remain in the house for multiple flocks or grow out cycles, or to decrease the frequency of house cleanouts to minimize dust emissions.
Outdoor Storage	To use of a structure design to store the bulk materials (e.g.: used poultry litter/manure) or to securely cover the bulk materials if it must be stored outdoors not within any enclosure	Prevents contact with precipitation and prevents windblown dispersion. Poultry litter consists mainly of light organic materials such as rice hulls or wood shavings. During a poultry house cleanout the used litter is scrapped out of the house and left in piles outdoors. If left in these outdoor piles for extended periods, winds can cause material to become airborne. Any technique that will shield the litter from wind will prevent or reduce the amount of material becoming airborne. Securely tarping the piles will protect the used litter from precipitation and windblown dispersal until the liter can be removed from the ranch. A partially enclosed structure, with walls situated in the prevailing wind direction, may be used to protect used litter stored onsite from precipitation and windblown dispersal.	To employ a structure design to store used poultry litter (manure and bedding material) onsite or to cover the bulk materials with tarps, plastics or suitable materials.

POULTRY OPERATIONS - FEEDING

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Boot or sock	Feed is loaded into the feed storage bins by employing a sock or boot on the feed delivery truck auger	To reduce the release of particulates	Use of a sock or boot on the delivery truck auger

POULTRY OPERATIONS – OPEN AREAS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Vegetation	Maintaining some vegetation, such as native grasses, on vacant land	Reduces windblown dust.	Allowing vegetative material to grow on vacant sections of the operation
Reduced tillage	To reduce the number of tillings	Reducing soil disturbance by stabilizing soil surface	Leaving residue on surface after mowing, using pre-emergent or contact herbicides, scorching of weeds instead of tilling, mulch to smother weed competition
Wind blocks	To establish a perimeter physical barrier to reduce windblown dust.	Disrupts the erosive flow of wind over unprotected areas thus helping to reduce fugitive dust	Use of perimeter physical barriers or vegetation barriers to disrupt wind flow
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VII for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc.

POULTRY OPERATIONS – UNPAVED ROADS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Access restriction	To restrict public access to private roads	Reduces vehicle traffic and thus reduces particulates emissions	To install a device which will limit use of road on or surrounding an operation
Pavement	To pave currently unpaved areas	Reduces entrainment of fugitive dust	To pave unpaved roads to prevent dust from vehicle traffic
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VII for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc.
Speed reduction	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed so reducing speed reduces dust	Posting speed limits on or surround the operation
Track out control	Minimize any and all material that adheres to and agglomerates on all vehicles and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road	Reduces entrainment of fugitive dust	Accomplished by maintaining sufficient length of paved/ graveled interior roads to allow mud and dirt to drop off vehicles before exiting the site; or use of a grizzly to dislodge debris from tires and undercarriage of vehicles leaving site.
Vegetation	To establish or maintain natural vegetation	Vegetation prevents wind erosion	Allowing vegetative material to grow on vacant sections of the operation

POULTRY OPERATIONS – UNPAVED VEHICLE/EQUIPMENT TRAFFIC AREAS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Access restriction	To restrict public access to private roads	Reduces vehicle traffic and thus reduces particulates emissions	To install a device which will limit use of road on or surrounding an operation
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Pavement	To pave currently unpaved areas	Reduces entrainment of fugitive dust	To pave unpaved areas to prevent dust from vehicle traffic
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VIII for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc.
Vegetation	To establish/maintain natural vegetation or vegetation to prevent wind erosion	Vegetation prevents wind erosion	Allowing vegetative material to grow on vacant sections of the operation

DAIRY OPERATIONS – CORRAL/MANURE HANDLING

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Sprinkling of open corral	Ensure adequate corral surface moisture level to prevent visible dust emissions. *This measure is not recommended for lactating cows	Stabilizes soil surface allowing for fugitive dust reduction. Sprinkling provides higher moisture content and causes soil compaction rather than loose, dry dirt being kicked up in the air by animal movement action.	Installation of sprinklers or other watering devices to maintain an adequate moisture level
Frequent scraping and or manure removal	Removal of manure from open corrals	Reduces potential for dust disturbance caused by animal's hoof action by maintaining minimal amount of dry dust on corral surface.	Prevent build-up of powdery dust in designated areas
Freestall housing	Use of freestall housing	Reduction in amount of generated dust. Concrete floor for manure deposition allows cleaning of manure through a flushing system, also the manure would already be in a high moist state.	Use of freestall
Fibrous layer in dusty areas	Addition of fibrous material to working pens	Prevents dust disturbance and dust entrainment by retaining moisture	Adding wood chips or other materials to sorting alleys and high traffic areas to hold moisture and keep down dust disturbance, and putting damp manure solids right off of the separator into the heifer pens on a daily basis and working it with a rotary harrow. Applies to heifers
Pull-type Manure harvesting equipment	Using a pull-type piece of equipment to leave an even corral surface	Stabilizes soil surface allowing for fugitive dust reduction by avoiding floor depression for dust accumulation and accumulation of dry soil/manure.	Piece of equipment should allow operators to leave an even corral surface of compacted manure on top of the soil. Pulling blades will do better than pushing blades
Scraping/harrowing	Scraping/ harrowing in morning hours when moisture is higher.	Reduction in amount of generated dust by retaining moisture.	Scraping/ harrowing in early morning when moisture is higher
Shaded areas in open corrals	Animals in open pens will loaf in shade areas increasing stocking density and reducing dust	Reduction in amount of generated dust by retaining moisture.	Providing shaded areas for animals to loaf in

DAIRY OPERATIONS – OVERALL MANAGEMENT/FEEDING

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Bulk materials control	Minimize visible dust emissions from bulk materials	Reduces entrainment of fugitive dust	To apply water or suitable chemical/organic , or cover the bulk materials with tarps, plastic or suitable material, or construct wind barriers such as a 3-sided structure surrounding the bulk materials (e.g.: feed commodity story barns)
Feeding near dusk	Feeding young stock during evening hours	Reduce dust-generating behaviors. For example, young stocks at dairies tend to play when temperature cools off. By feeding them at a later time breaks that activity pattern.	Feeding animals during the evening hours when conditions will generate less dust
Wet feed during mixing	To increase moisture feed levels	Avoid excessive dust.	Addition of water or moist supplements to reduce the amount of generated dust
Place wet material in feedwagon first before mixing	Mix wet feed with dry feed for suppression.	Avoid excessive dust.	Place wet material into feedwagon fist to suppress dust generation
Downwind shelterbelts/ boundary trees	Planting rows of vegetation around facility and surrounding to create a barrier for air exiting from the facilities	Reduces windblown dust.	Use of perimeter barriers or vegetation to disrupt the wind flow

DAIRY OPERATIONS – OVERALL UNPAVED ROADS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VIII for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc.

DAIRY OPERATIONS – OVERALL UNPAVED ROADS (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Speed reduction	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed so reducing speed reduces dust	Posting speed limits on or surround the operation
Access restriction	To restrict public access to private roads	Reduces vehicle traffic and thus reduces particulates emissions	To install a device which will limit use of road on or surrounding an operation
Pavement	To pave currently unpaved areas	Prevent dust from vehicle traffic	To pave unpaved roads
Track out control	Minimize any and all material that adheres to and agglomerates on all vehicles and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road	Reduces entrainment of fugitive dust	Accomplished by maintaining sufficient length of paved/ graveled interior roads to allow mud and dirt to drop off vehicles before exiting the site; or use of a grizzly to dislodge debris from tires and undercarriage of vehicles leaving site.
Speed Bumps	Installation of mechanisms to slow traffic	Dust emissions from unpaved road are a function of speed so reducing speed reduces dust	To install physical devices which slow down the speed of traffic
Appropriate equipment and vehicles	Using trip appropriate vehicles	Reduces the amount of generated dust	Using four wheelers or electric carts rather than trucks for routine trips

DAIRY OPERATIONS – UNPAVED VEHICLE/EQUIPMENT TRAFFIC AREAS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Regulation VIII for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc.
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Access restriction	To restrict public access to private roads	Reduces vehicle traffic and thus reduces particulates emissions	To install a device which will limit use of road on or surrounding an operation
Speed reduction	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed so reducing speed reduces dust	Posting speed limits on or surround the operation
Pavement	To pave currently unpaved areas	Prevent dust from vehicle traffic	To pave unpaved roads
Appropriate equipment and vehicles	Using trip appropriate vehicles	Reduces the amount of generated dust	Using four wheelers or electric carts rather than trucks for routine trips

FEEDLOT OPERATIONS - PENS/MANURE HANDLING

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Sprinkle	Ensure adequate pen surface moisture level to prevent visible dust emissions	Stabilizes soil surface allowing for fugitive dust reduction. Sprinkling provides higher moisture content and causes soil compaction rather than loose, dry dirt being kicked up in the air by animal movement action.	Installation of sprinklers or other watering devices to maintain an adequate moisture level
Frequent scraping and or manure removal	Removal of powdery dust	Reduces potential for dust disturbance caused by animal's hoof action by maintaining minimal amount of dry dust.	Prevent build-up of powdery dust in designated areas
Fibrous layer in working areas (for alley, etc.)	Addition of fibrous material to areas	Prevents dust disturbance.	Adding wood chips or other materials to sorting alleys and high traffic areas to hold moisture and keep down dust disturbance, and putting damp manure solids right off of the separator into the heifer pens on a daily basis and working it with a rotary harrow. Applies to heifers
Pull-type Manure harvesting equipment	Using a piece of equipment to leave an even corral surface	Stabilizes soil surface allowing for fugitive dust reduction by avoiding floor depression for dust accumulation and accumulation of dry soil/manure.	Piece of equipment should allow operators to leave an even corral surface of compacted manure on top of the soil. Pulling blades will do better than pushing blades
Shade for animal	Animals in open pens will loaf in shade areas increasing stocking density and reducing dust	Reduction in amount of generated dust by retaining moisture.	Providing shaded areas for animals to loaf in

FEEDLOT OPERATIONS - OVERALL MANAGEMENT/FEEDING

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Bulk materials control	Minimize visible dust emissions from bulk materials	Reduces entrainment of fugitive dust	To apply water or suitable chemical/organic , or cover the bulk materials with tarps, plastic or suitable material, or construct wind barriers such as a 3-sided structure surrounding the bulk materials (e.g.: feed commodity story barns)

FEEDLOT OPERATIONS - OVERALL MANAGEMENT/FEEDING (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Feeding near dusk	Feeding during evening hours	Reduce dust-generating behaviors. For example, animals tend to play when temperature cools off. By feeding them at a later time breaks that activity pattern.	Feeding animals during the evening hours when conditions will generate less dust
Wet feed during mixing	To increase moisture feed levels	Ability to avoid excessive dust	Addition of water or moist supplements to reduce the amount of generated dust
Place wet material in feedwagon first	Mix wet feed with dry feed for suppression	Ability to avoid excessive dust	Place wet material into feedwagon fist to suppress dust generation
Downwind shelterbelts/ boundary trees	Planting rows of vegetation around facility and surrounding to create a barrier for air exiting from the facility	Reduces windblown dust	Use of perimeter barriers or vegetation to disrupt the wind flow

FEEDLOT OPERATIONS - UNPAVED ROADS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets specifications required by federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Rule 402.2 for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock

FEEDLOT OPERATIONS - UNPAVED ROADS (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Access restriction	To restrict public access to private roads	Reduces vehicle traffic and thus reduces particulates emissions	To install a device which will limit use of road on or surrounding an operation
Speed reduction	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed so reducing speed reduces dust	Posting speed limits on or surround the operation
Pavement	To pave currently unpaved areas	Prevent dust from vehicle traffic	To pave unpaved roads
Track out control	Minimize any and all material that adheres to and agglomerates on all vehicles and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road	Reduces entrainment of fugitive dust	Accomplished by maintaining sufficient length of paved/ graveled interior roads to allow mud and dirt to drop off vehicles before exiting the site; or use of a grizzly to dislodge debris from tires and undercarriage of vehicles leaving site.
Appropriate equipment and vehicles	Using trip appropriate vehicles	Reduces the amount of generated dust	Using four wheelers or electric carts rather than trucks for routine trips

FEEDLOT OPERATIONS - UNPAVED VEHICLE/EQUIPMENT TRAFFIC AREAS

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Dust suppressants	Application of any non-toxic chemical or organic dust suppressant which meets any specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. See Rule 402.2 for additional requirements	Reduces entrainment of fugitive dust	To use a variety of products: water application, hygroscopic suppressants (road salts), petroleum emulsions, adhesives, polymers emulsions, and bituminous materials (road oil). Water or chemical dust suppressants will bind soils. r, sodium chloride, road oil, chippings from farm, etc.

FEEDLOT OPERATIONS - UNPAVED VEHICLE/EQUIPMENT TRAFFIC AREAS (Continued)

PRELIMINARY CMPs	DESCRIPTION	BENEFITS	EXAMPLES
Gravel	Placing a layer of gravel with enough depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained	Reduces entrainment of fugitive dust	To add a layer of washed gravel, rock, or crushed rock
Access restriction	To restrict public access to private roads	Reduces vehicle traffic and thus reduces particulates emissions	To install a device which will limit use of road on or surrounding an operation
Speed reduction	Enforcement of speeds that reduce visible dust emissions	Dust emissions from unpaved roads are a function of speed so reducing speed reduces dust	Posting speed limits on or surround the operation
Pavement	To pave currently unpaved areas	Prevent dust from vehicle traffic	To pave unpaved roads
Appropriate equipment and vehicles	Using trip appropriate vehicles	Reduces the amount of generated dust	Using four wheelers or electric carts rather than trucks for routine trips