

NOTICE OF FINAL EXEMPT RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR POLLUTION CONTROL

PREAMBLE

**1. Articles, Parts, or Sections Affected (as applicable)      Rulemaking Action**

R18-2-610	Amend
R18-2-610.03	Amend
R18-2-611	Amend
R18-2-611.03	Amend

**2. Citations to the agency's statutory rulemaking authority to include the authorizing statute (general) and the implementing statute (specific):**

Authorizing statutes: A.R.S. § 49-457

Implementing statutes: A.R.S. § 49-457

Statute or Session Law Authorizing the Exemption: House Bill (HB) 2208 (Fiftieth Legislature, First Regular Session, 2011, Chapter 214, § 4)

**3. The effective date of the rule and the agency's reason it selected the effective date:**

November 3, 2021. HB 2208 (Fiftieth Legislature, First Regular Session, 2011, Chapter 214, § 4) states that the rule shall be effective immediately upon filing with the Secretary of State.

**4. Citations to all related notices published in the Register as specified in R1-1-409(A) that pertain to the record of the proposed rule:**

Not applicable

**5. The agency's contact person who can answer questions about the rulemaking:**

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**6. An agency's justification and reason why a rule should be made, amended, repealed, or renumbered, to include an explanation about the rulemaking:**

**Summary.**

This Notice of Final Exempt Rulemaking promulgates amendments to the existing Agricultural Best Management Practices (AgBMP) general permit set forth in A.A.C. R18-2-610, R18-2-610.03, R18-2-611, and R18-2-611.03. The amendments were adopted by the AgBMP Committee pursuant to A.R.S. § 49-457 on July 28, 2021. The Arizona Department of Environmental Quality (ADEQ), which serves as staff for the Committee under A.R.S. § 49-457(F), is submitting the amendments for publication in the Arizona Administrative Register on the Committee's behalf.

On June 24, 2020, EPA determined that the West Pinal Serious PM<sub>10</sub> Nonattainment area (West Pinal) had not attained the PM<sub>10</sub> NAAQS by the applicable December 31, 2018 deadline. Because of this determination, West Pinal was automatically reclassified from "moderate" to "serious" and became subject to the requirements for serious PM<sub>10</sub> nonattainment areas (NAA) in Clean Air Act (CAA) § 189(b). Under § 189(b), Arizona must submit a state implementation plan (SIP) by January 24, 2022 that, among other things, provides for the imposition of best available control measures (BACM) on all significant sources of PM<sub>10</sub> in the West Pinal NAA, including agricultural operations. The purpose of the proposed rule amendments is to meet the BACM requirement and other requirements of Title I, Part D, Subpart 4 of the federal Clean Air Act (CAA) for agricultural sources of PM<sub>10</sub> emissions in West Pinal.

The AgBMP Committee has authority to adopt and amend AgBMP general permits by rule under ARS § 49-457(H), (L), and (P). ARS § 41-1038(A) (restrictions on new rulemaking) does not apply. The AgBMP rulemaking is necessary to implement § 49-457 and avoid the imposition of sanctions pursuant to the CAA and is therefore exempt from § 41-1038 under subsections (A)(2) and (C)(3), respectively.

Laws 2011, Ch. 214, § 4, provides as follows:

Notwithstanding title 41, chapter 6, article 3, Arizona Revised Statutes, the best management practices committee for regulated agricultural activities established under section 49-457, Arizona Revised Statutes, may adopt revisions to the rules required by section 49-457, Arizona Revised Statutes, as exempt rules with an immediate effective date in compliance with section 41-1032,

Arizona Revised Statutes. The rules shall have an immediate effective date. Exempt rules are exempt from the provisions in title 41, chapter 6, article 3, Arizona Revised Statutes, except that the committee shall file a notice of exempt rulemaking with the secretary of state who shall publish the rules in the Arizona administrative register and the Arizona administrative code.

Title 41, chapter 6, article 3, establishes the procedures for agency rulemakings, including the obligation to publish a notice of proposed rulemaking and to submit a rule to the Governor's Regulatory Review Council. ARS § 41-1024(B). Thus, rules adopted by the AgBMP Committee are exempt from these requirements. On adoption or amendment of AgBMP rules by the Committee, ADEQ submits a final Notice of Exempt Final Rulemaking to the Secretary of State for publication. The AgBMP Committee has adopted rule amendments pursuant to this exemption on two prior occasions in 2012 and 2015. 18 AAR 137 (Jan. 20, 2012); 21 AAR 1156 (July 24, 2015).

Under Laws 2011, Ch. 214, § 4, ARS § 41-1038(A) (restrictions on new rulemaking) also does not apply. In any case, the AgBMP rulemaking is necessary to implement § 49-457 and avoid the imposition of sanctions pursuant to the CAA and would therefore be exempt from § 41-1038 under subsections (A)(2) and (C)(3), respectively.

## **Background.**

### **The AgBMP Program**

The legislature has delegated the task of adopting control measures for PM<sub>10</sub> emissions from agricultural activities in PM<sub>10</sub> nonattainment areas to the AgBMP Committee. As provided in ARS 49-457(B) and (C), the Committee consists of:

- nine stakeholders engaged in specific agricultural operations appointed by the governor;
- a soil taxonomist from the University of Arizona college of agriculture appointed by the governor;
- an employee of a county air quality department appointed by the Governor; and
- representatives of ADEQ, the Arizona Department of Agriculture (ADOA), the University of Arizona college of agriculture (UA), and the state director of the United States natural resources conservation service designated by those organizations.

ADEQ, ADOA, and UA are required to give technical assistance to the Committee. ADEQ is directed to provide staff support and meeting facilities.

The approach of the program is for the AgBMP Committee to adopt a general permit specifying lists of best management practices (BMP) for “regulated agricultural activities.” Persons subject to the permit are then required to select and apply BMPs to the regulated activities they engage in. The program, in other words, allows agricultural experts to establish control methods for the industry and then gives individual farmers the flexibility to select the appropriate controls for their operations.

The legislature originally adopted the AgBMP program in 1998 to control PM<sub>10</sub> emissions from crop operations in the Phoenix PM<sub>10</sub> nonattainment area. EPA approved this version of the statute into the SIP in 2002.

Since then, the legislature has expanded the program to apply to other areas and other types of operations. Specifically, in 2009, the legislature amended the statute to apply (1) to cattle, swine, and poultry facilities, as well as crop operations, and (2) to any PM<sub>10</sub> nonattainment area designated after June 1, 2009.

The original version of § 49-457 required the application of one BMP to each regulated agricultural activity. In 2011, the legislature amended the statute to require one BMP per regulated activity in any moderate PM<sub>10</sub> nonattainment area and two in any serious area.

#### **The West Pinal PM<sub>10</sub> Nonattainment Area**

West Pinal consists of 1,325 square miles of the western portion of Pinal County. In contrast to the mountainous eastern region, West Pinal consists primarily of low desert valleys. Neighboring Indian reservations are not included in the nonattainment area.

The nonattainment area includes the Maricopa, Casa Grande, Eloy, Coolidge, Florence, and San Tan Valley communities and has a population of approximately 260,000. As a result of its location along the major growth corridor between Phoenix and Tucson, the area has a diverse and growing economy that includes agriculture, construction, manufacturing, trade, and services.

West Pinal was designated as nonattainment for the PM<sub>10</sub> NAAQS effective July 12, 2012 based on “widespread, frequent, and in some instances, severe violations of the PM<sub>10</sub> standard.” 77 FR 32024, 32025 (May 31, 2012). As required by CAA § 188(a), EPA initially classified West Pinal as a “moderate” nonattainment area with an attainment deadline of December 31, 2018.

#### **The Moderate Area SIP**

ADEQ submitted a moderate nonattainment area SIP for West Pinal to EPA on December 21, 2015 (the 2015 SIP).

The 2015 SIP included control measures for agriculture in the form of AgBMP general permit rules. As a PM<sub>10</sub> nonattainment area designated after June 1, 2009, West Pinal became subject to the AgBMP program under ARS § 49-457(P)(6). On July 2, 2015, the AgBMP Committee therefore adopted AAC R18-2-610.03 and R18-2-611.03 establishing an AgBMP general permit covering crop and animal operations, respectively, for West Pinal. (Relevant definitions appear in R18-2-610 and R18-2-611, respectively.) Since West Pinal was designated as moderate at the time, the rules require the imposition of “at least one” BMP to each category of regulated activity.

EPA approved some elements of the 2015 SIP in 2017. On January 8, 2021, EPA proposed to partially approve and partially disapprove the remaining elements. The partial disapproval, if finalized, would have resulted in the imposition of a conformity freeze, which would have prevented transportation planning and many transportation projects in West Pinal from moving forward. To prevent imposition of the freeze, ADEQ has withdrawn the 2015 SIP. Its deficiencies will be addressed in the serious area plan discussed below.

### **The Serious Area SIP**

On June 24, 2020, EPA determined that the West Pinal PM<sub>10</sub> nonattainment area had not attained the PM<sub>10</sub> NAAQS by the December 31, 2018 deadline for a moderate area. This determination automatically resulted in reclassification of the area to serious. Under the CAA, Arizona must submit a SIP meeting all requirements for a serious PM<sub>10</sub> nonattainment area, including an attainment demonstration and the imposition of best available control measures (BACM), by January 24, 2022.

The Maricopa Association of Governments (MAG) assumed planning responsibility for the West Pinal PM<sub>10</sub> nonattainment area in 2016 and is therefore responsible for developing the serious area plan. ADEQ retains responsibility together with the AgBMP Committee for ensuring that the AgBMP program satisfies Clean Air Act requirements.

The new attainment deadline for West Pinal after reclassification to serious is December 31, 2022. Under CAA § 188(e), EPA may extend the serious area deadline by up to five years, if

- attainment by 2022 is impracticable, and
- the serious area SIP “includes the most stringent measures [MSM] that are included in the implementation plan of any State or are achieved in practice in any State, and can feasibly be implemented in the area.”

MAG has determined that attainment by 2022 is impractical and therefore intends to seek an attainment deadline extension under CAA § 188(e). Control measures included in the serious area plan, including AgBMPs, will therefore have to satisfy the MSM requirement, as well as BACM.

**Adoption of BACM and MSM for Agricultural Operations**

On May 26, 2021, the Maricopa Association of Governments adopted a Suggested List of Measures to Reduce PM<sub>10</sub> Particulate Matter in the West Pinal County Nonattainment Area (the “Suggested List of Measures”). This list was based on the March 31, 2021 report prepared by Trinity Consultants entitled *Analyses of Best Available Control Measures and Most Stringent Measures for The West Pinal County Serious PM<sub>10</sub> Nonattainment Area Final Report* and included suggested revisions to the AgBMP requirements for West Pinal that would qualify as BACM and MSM.

On July 28, 2021, the AgBMP Committee adopted a resolution committing to implement the following control measures from the Suggested List of Measures:

<b>Source Category</b>	<b>Measure Number</b>	<b>Measure Title</b>
Dairies	31	Tighten Definition of Dairies Subject to Fugitive Dust Rules
Dairies	32	Increase the Number of Dairy Operation Fugitive Dust BMPs
Dairies	33	Increase the Number of Dairy Operation Fugitive Dust BMPs for Arenas, Corrals and Pens
Dairies	34	Increase the Number of Dairy Operation Fugitive Dust BMPs for Animal Waste (and Feed) Handling and Transporting
Dairies	35	Increase the Number of Dairy Operation Fugitive Dust BMPs for Unpaved Access Connections
Dairies	36	Increase the Number of Dairy Operation Fugitive Dust BMPs for Unpaved Roads or Feed Lanes
Dairies	37	Increase the Number of Dairy Operation Fugitive Dust BMPs for Unpaved Vehicle/Equipment Traffic Areas
Cattle CAFOs	38	Tighten Definition of Cattle Confined Animal Feeding Operations Subject to Fugitive Dust Rules
Cattle CAFOs	39	Increase the Number of Cattle Confined Animal Feeding Operations Fugitive Dust BMPs
Cattle CAFOs	40	Increase the Number of Cattle Confined Animal Feeding Operations Fugitive Dust BMPs for Arenas, Corrals and Pens

Cattle CAFOs	41	Increase the Number of Cattle Confined Animal Feeding Operations Fugitive Dust BMPs for Animal Waste (and Feed) Handling and Transporting
Cattle CAFOs	42	Increase the Number of Cattle Confined Animal Feeding Operations Fugitive Dust BMPs for Unpaved Access Connections
Cattle CAFOs	43	Increase the Number of Cattle Confined Animal Feeding Operations Fugitive Dust BMPs for Unpaved Roads or Feed Lanes
Cattle CAFOs	44	Increase the Number of Cattle Confined Animal Feeding Operations Fugitive Dust BMPs for Unpaved Vehicle/Equipment Traffic Areas
Agriculture (Cropland)	45	Increase the Number of BMPs to Control Fugitive Dust from Cropland Areas
Agriculture (Cropland)	46	Increase the Number of BMPs to Control Fugitive Dust on Noncropland Areas That Are Not Tied to High-Risk Days
Agriculture (Cropland)	47	Increase the Number of BMPs for the Control of Fugitive Dust from Commercial Farm Roads
Agriculture (Cropland)	50	Increase the Minimum Number of Agricultural Earth Moving BMPs
Agriculture (Cropland)	51	Require Implementation of BMPs to Control Windblown Dust from Crop Operations on All Days

In addition to satisfying BACM and MSM, measures 31-37 and 38-47 are necessary to meet the requirement in the 2011 amendments to ARS § 49-457 to require two AgBMPs for each regulated activity in serious nonattainment areas.

At the July 28, 2021 meeting, the AgBMP Committee adopted rule amendments necessary to implement these control measures. Those amendments are set forth in section 15 of this preamble.

**7. A reference to any study relevant to the rule that the agency reviewed and proposes either to rely on or not to rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:**

None

**8. A showing of good cause why the rulemaking is necessary to promote a statewide interest if the rulemaking will diminish a previous grant of authority of a political subdivision of this state:**

Not applicable.

**9. A summary of the economic, small business, and consumer impact:**

Not applicable to this exempt rulemaking.

**10. A description of any changes between the proposed rulemaking, to include supplemental notices, and the final rulemaking:**

Not applicable

**11. An agency's summary of the public or stakeholder comments made about the rulemaking and the agency response to the comments:**

Not applicable

**12. All agencies shall list other matters prescribed by statute applicable to the specific agency or to any specific rule or class of rules. Additionally, an agency subject to Council review under A.R.S. §§ 41-1052 and 41-1055 shall respond to the following questions:**

**a. Whether the rule requires a permit, whether a general permit is used and if not, the reasons why a general permit is not used:**

A general permit is used as provided for in A.R.S. § 49-457(H).

**b. Whether a federal law is applicable to the subject of the rule, whether the rule is more stringent than federal law and if so, citation to the statutory authority to exceed the requirements of federal law:**

Not applicable

**c. Whether a person submitted an analysis to the agency that compares the rule's impact of the competitiveness of business in this state to the impact on business in other states:**

No such analysis was submitted.

**13. A list of any incorporated by reference material as specified in A.R.S. § 41-1028 and its location in the rules:**

None

**14. Whether the rule was previously made, amended or repealed as an emergency rule. If so, cite the notice published in the Register as specified in R1-1-409(A). Also, the agency shall state where the text was changed between the emergency and the final rulemaking packages:**

These amendments were not previously made, amended or repealed as an emergency rule..



**15. The full text of the rules follows:**

**TITLE 18. ENVIRONMENTAL QUALITY**

**CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY - AIR POLLUTION CONTROL**

**ARTICLE 6. EMISSIONS FROM EXISTING AND NEW POINT SOURCES**

- R18-2-610. Definitions for R18-2-610.01, R18-2-610.02, and R18-2-610.03
- R18-2-610.03. Agricultural PM General Permit for Crop Operations; Pinal County PM Nonattainment Area
- R18-2-611. Definitions for R18-2-611.01, R18-2-611.02, and R18-2-611.03
- R18-2-611.03. Agricultural PM General Permit for Animal Operations; Pinal County PM Nonattainment Area

## ARTICLE 6. EMISSIONS FROM EXISTING AND NEW POINT SOURCES

### **R18-2-610. Definitions for R18-2-610.01, R18-2-610.02, and R18-2-610.03**

The definitions in R18-2-101 and the following definitions apply to R18-2-610.01, R18-2-610.02, and R18-2-610.03:

1. “Access restriction” means reducing PM emissions by reducing the number of trips driven on agricultural aprons and access roads by restricting or eliminating public access to noncropland or commercial farm roads with signs or physical obstruction at locations that effectively control access to the area.
2. “Aggregate cover” means reducing PM emissions and wind erosion and stabilizing soil by applying and maintaining gravel, concrete, recycled road base, caliche, or other similar material to noncropland or commercial farm roads. The aggregate should be clean, hard and durable, and should be applied and maintained to a depth sufficient to reduce PM emissions.
3. “Area A” means the area delineated according to A.R.S. § 49-541(1).
4. “Best management practice” (BMP) means a technique verified by scientific research, that on a case-by-case basis is practical, economically feasible, and effective in reducing PM emissions from a regulated agricultural activity.
5. “Cessation of Night Tilling” means the discontinuation of tillage from sunset to sunrise on a day identified by the Maricopa or Pinal County Dust Control Forecast as being high risk of dust generation.
6. “Chemical irrigation” means reducing a minimum of one ground operation across a commercial farm by applying a fertilizer, pesticide, or other agricultural chemical to cropland through an irrigation system, which reduces soil disturbance and increases efficiency of application.
7. “Chips/ mulches” means reducing PM emissions and soil movement and preserving soil moisture by applying and maintaining nontoxic chemical or organic dust suppressants to a depth sufficient to reduce PM emissions. Materials shall meet all specifications required by federal, state, or local water agencies, and is not prohibited for use by any applicable regulations.
8. “Combining tractor operations” means reducing soil compaction and a minimum of one tillage or ground operation across a commercial farm by using a tractor, implement, harvester, or other farming support vehicle to perform two or more tillage, cultivation, planting, or harvesting operations at the same time. If Equipment modification is also chosen as a BMP, and uses the same practices as described in this BMP, this action is considered one BMP.
9. “Commercial farm” means 10 or more contiguous acres of land used for agricultural purposes within the boundary of the Maricopa PM nonattainment area and Maricopa County portion of

Area A, a PM nonattainment area designated after June 1, 2009 as stated in A.R.S. § 49-457(PQ)(1)(f), or the Pinal County PM Nonattainment Area.

10. “Commercial farm road” means a road that is unpaved, owned by a commercial farmer, and is used exclusively to service a commercial farm.
11. “Commercial farmer” means an individual, entity, or joint operation in general control of a commercial farm.
12. “Committee” means the Governor’s Agricultural Best Management Practices Committee as established by A.R.S. § 49-457.
13. “Conservation Tillage” means a tillage system that reduces a minimum of three tillage operations. This system reduces soil and water loss by planting into existing plant stubble on the field after harvest as well as managing the stubble so that it remains intact during the planting season.
14. “Cover crop” means establishing cover crops that maintain a minimum of 60 percent ground cover. Native or volunteer vegetation that meets the minimum ground cover requirement is acceptable. Compliance shall be determined by the Line Transect Test Method, NRCS National Agronomy Manual, Subpart 503.51, Estimating Crop Residue Cover, amended through February 2011 (and no future editions).
15. “Critical area planting” means reducing PM<sub>10</sub> emissions and wind erosion by planting trees, shrubs, vines, grasses, or other vegetative cover on noncropland in order to maintain at least 60 percent ground cover. Compliance shall be determined by the Line Transect Test Method, NRCS National Agronomy Manual, Subpart 503.51, Estimating Crop Residue Cover, amended through February 2011 (and no future editions).
16. “Cropland” means land on a commercial farm that:
  - a. Is within the time-frame of final harvest to plant emergence, but does not include tillage activities;
  - b. Has been tilled in a prior year and is suitable for crop production, but is currently fallow; or
  - c. Is a turn-row.
17. “Cross-wind ridges” means stabilizing soil and reducing PM emissions and wind erosion by creating soil ridges in a commercial farm by tillage or planting operations. Ridges should be at least four inches in height, and be aligned as perpendicular as possible to the prevailing wind direction.
18. “Dust Control Forecast” means a forecast, which shall identify a low, moderate or high risk of dust generation for the next five consecutive days and shall be issued by noon on each day the forecast is generated. When developing these forecasts, the department shall consider all of the following:

- a. Projected meteorological conditions, including:
    - i. Wind speed and direction,
    - ii. Stagnation,
    - iii. Recent precipitation, and
    - iv. Potential for precipitation;
  - b. Existing concentrations of air pollution at the time of the forecast; and
  - c. Historic air pollution concentrations that have been observed during meteorological conditions similar to those that are predicted to occur in the forecast.
19. “Equipment modification” means reducing PM emissions and soil erosion during tillage or ground operations by modifying and maintaining an existing piece of agricultural equipment, installing shielding equipment, modifying land planting and land leveling, matching the equipment to row spacing, or grafting to new varieties or technological improvements. If combining tractor operations is also chosen as a BMP, and uses the same practices as described in this BMP, this action is considered one BMP.
20. “Fallow Field” means an area of land that is routinely cultivated, planted and harvested and is unplanted for one or more growing seasons or planting cycles, but is intended to be placed back in agricultural production.
21. “Field Capacity” means the amount of water remaining in the soil two days after having been saturated and after free drainage has ceased.
22. “Forage Crop” means a product grown for consumption by any domestic animal.
23. “Genetically Modified” (GMO) means a living organism whose genetic material has been altered, changing one or more of its characteristics.
24. “GPS: Global Position Satellite System” means using a satellite navigation system on farm equipment to calculate position in the field.
25. “Green chop” means reducing soil compaction, soil disturbance and a minimum of one ground operation across a commercial farm by harvesting a Forage Crop without allowing it to dry in the field.
26. “Ground operation” means an agricultural operation that is not a tillage operation, which involves equipment passing across the field. A ground operation includes harvest activities. A pass through the field may be a subset of a ground operation.
27. “Harvest” means the time after planting up through harvest, including gathering mature crops from a commercial farm, as well as all actions taken immediately after crop removal, such as cooling, sorting, cleaning, and packing.

28. “Integrated Pest Management” means reducing soil compaction and a minimum of one ground operation across a commercial farm for spraying by using a combination of techniques including organic, conventional, and biological farming practices to suppress pest problems.
29. “Limited harvest activity” means performing no ground operations on a day identified by the Maricopa or Pinal County Dust Control Forecast to be high risk for dust generation.
30. “Limited tillage activity” means performing no tillage operations on a day identified by the Maricopa or Pinal County Dust Control Forecast to be high risk for dust generation.
31. “Maricopa PM nonattainment area” means the Phoenix planning area as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210.
32. “Multi-year crop” means reducing PM emissions from wind erosion and a minimum of one tillage and ground operation across a commercial farm, by protecting the soil surface by growing a crop, pasture, or orchard that is grown, or will be grown, on a continuous basis for more than one year.
33. “Noncropland” means any commercial farm land that:
  - a. Is no longer used for agricultural production;
  - b. Is no longer suitable for production of crops;
  - c. Is subject to a restrictive easement or contract that prohibits use for the production of crops;  
or
  - d. Includes a ditch, or ditch bank, equipment yard, storage yard, or well head.
34. “NRCS” means the Natural Resource Conservation Service.
35. “Organic material cover” means reducing PM emissions and wind erosion and preserving soil moisture by applying and maintaining cover material such as animal waste or plant residue, to a soil surface to reduce soil movement. Material shall be evenly applied and maintained to a depth sufficient to reduce PM emissions and coverage should be a minimum of 70 percent.
36. “Permanent cover” means reducing PM emissions and wind erosion by maintaining a long-term perennial vegetative cover on cropland that is temporarily not producing a major crop. Perennial species such as grasses and/or legumes shall be used to establish at least 60 percent cover. Compliance shall be determined by the Line Transect Test Method, NRCS National Agronomy Manual, Subpart 503.51, Estimating Crop Residue Cover, amended through February 2011 (and no future editions).
37. “Pinal County PM Nonattainment Area” means the West Pinal PM<sub>10</sub> planning area and the West Central PM<sub>2.5</sub> planning area, as defined in 40 CFR 81.303, and incorporated by reference in R18-2-210.

38. “Plant stubble” means stubble on the soil surface, which insulates soil to reduce evaporation of moisture, and also protects the soil from wind and water erosion.
39. “Planting based on soil moisture” means reducing PM emissions and wind erosion by applying water or having enough moisture in the soil to germinate the seed prior to planting. Soil must have a minimum soil moisture content of 60% of field capacity at planting depth. Compliance shall be determined by NRCS Estimating Soil Moisture by Feel and Appearance Method, amended through April 1998 (and no future editions).
40. “PM” includes both particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured by a reference method based on 40 CFR 50 Appendix L, or by an equivalent method designated according to 40 CFR 53; and particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method contained within 40 CFR 50 Appendix J or by an equivalent method designated in accordance with 40 CFR 53, as incorporated by reference in Appendix 2.
41. “Precision Farming” means reducing the number of passes across a commercial farm by at least 12 inches per pass by using GPS to precisely guide farm equipment in the field.
42. “Reduce vehicle speed” means reducing PM emissions and soil erosion from the operation of farm vehicles or farm equipment on noncropland or commercial farm roads at speeds not to exceed 15 miles per hour. This can be achieved through installation of engine speed governors, signage, or speed control devices.
43. “Reduced harvest activity” means reducing soil disturbance, soil and water loss, and the number of mechanical harvest passes by a minimum of one ground operation across a commercial farm, by means other than equipment modification or combining tractor operations.
44. “Reduced tillage system” means reducing soil disturbance, soil and water loss, by using a single piece of equipment that reduces a minimum of three tillage operations, by means other than equipment modification or combining tractor operations.
45. “Regulated agricultural activity” means a regulated agricultural activity as defined in A.R.S. § 49-457(~~PO~~)(1)(a) through (~~PO~~)(1)(d).
46. “Regulated area” means the regulated area as defined in A.R.S. § 49-457(~~PO~~)(6).
47. “Residue management” means reducing PM emissions and wind erosion by maintaining a minimum of 60 percent ground cover of crop and other plant residues on a soil surface between the time of harvest of one crop and the commencement of tillage for a new crop. Compliance shall be determined by the Line Transect Test Method, NRCS National Agronomy Manual, Subpart 503.51, Estimating Crop Residue Cover, amended through February 2011 (and no future editions).

48. “Sequential cropping” means reducing PM emissions and wind erosion by growing crops in a sequence or close rotation that limits the amount of time bare soil is exposed on a commercial farm to 30 days or less.
49. “Shuttle System/Larger Carrier” means reducing one out of every four trips across a commercial farm by using multiple or larger bins/trailers to haul commodity from the field.
50. “Significant Agricultural Earth Moving Activities” means either leveling activities conducted on a commercial farm that disturb the soil more than 4 inches below the surface, or the creation, maintenance and relocation of: ditches, canals, ponds, irrigation lines, tailwater recovery systems (agricultural sumps) and other water conveyances, not to include activities performed on cropland for tillage, ground operations or harvest.
51. “Silt content test method” means the test method as described in Appendix 2.
52. “Stabilization of soil prior to plant emergence” means reducing PM emissions by applying water to soil prior to crop emergence in order to cause the soil to form a visible crust.
53. “Surface roughening” means reducing PM emissions or wind erosion by manipulating a soil surface by means such as rough discing or tillage in order to produce or maintain clods on the land surface. Compliance shall be determined by NRCS Practice Code 609, Surface Roughening, amended through November 2008 (and no future editions).
54. “Synthetic particulate suppressant” means reducing PM emissions and wind erosion by providing a stabilized soil surface on noncropland or commercial farm roads with a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, an emulsion of a petroleum product, an enzyme product, or polyacrylamide that is used to control particulate matter.
55. “Tillage” means any mechanical practice that physically disturbs the soil, and includes preparation for planting, such as plowing, ripping, or discing.
56. “Tillage based on soil moisture” means reducing PM emissions by irrigating fields to the depth of the proposed cut prior to soil disturbances or conducting tillage to coincide with precipitation. Soil must have a minimum soil moisture content of 40-60% of field capacity at planting depth. Compliance shall be determined by NRCS Estimating Soil Moisture by Feel and Appearance Method, amended through April 1998 (and no future editions).
57. “Timing of a tillage operation” means reducing wind erosion and PM emissions by performing tillage operations that minimize the amount of time within 45 days.
58. “Tillage operation” means an agricultural operation that mechanically manipulates the soil for the enhancement of crop production. Examples include discing or bedding. A pass through the field may be a subset of a tillage operation.



59. “Track-out control system” means minimizing any and all material that adheres to and agglomerates on all vehicles and equipment from noncropland or commercial farm roads or and falls onto paved public roads or shoulders to paved public roads by using a device or system to remove mud or soil from a vehicle or equipment before the vehicle enters a paved public road. Devices such as a grizzly, a gravel pad or a wheel wash system can be used.
60. “Transgenic Crops” means reducing a minimum of one tillage or ground operation, the number of chemical spray applications, or soil disturbances by using plants that are genetically modified.
61. “Transplanting” means reducing a minimum of one ground operation across a commercial farm and minimizing soil disturbance by utilizing plants already in a growth state as compared to seeding.
62. “Unpaved vehicle or equipment traffic area” means any area of noncropland that is used for the fueling, servicing, receiving, transfer, parking or storing of equipment or vehicles.
- ~~62~~63. “VDT” (Vehicle trips per day) means trips per day made by one vehicle, in one direction.
- ~~63~~64. “Watering” means reducing PM emissions and wind erosion by applying water to noncropland or commercial farm road bare soil surfaces during periods of high traffic until the surfaces are visibly moist.
- ~~64~~65. “Watering on a high risk day” means reducing PM emissions and wind erosion by applying water to commercial farm road bare soil surfaces until the surfaces are visibly moist, on a day forecast to be high risk for dust generation by the Maricopa or Pinal County Dust Control Forecast.
- ~~65~~66. “Wind barrier” means reducing PM emissions and wind erosion by constructing a fence or structure, or providing a woody vegetative barrier by planting a row of trees or shrubs, perpendicular or across the prevailing wind direction to reduce wind speed by changing the pattern of air flow over the land surface. For fences and structures, the wind barrier shall have a density of no less than 50% and the height of the wind barrier must be proportionate to the downwind protected area. The downwind protected area is considered ten times the height of the wind barrier. For vegetative barriers, compliance shall be determined by NRCS Conservation Practice Standard, Code 380, Windbreak/Shelterbelt Establishment, amended through August 21, 2009 (and no future editions).

**R18-2-610.03. Agricultural PM General Permit for Crop Operations; Pinal County PM**

**Nonattainment Area**

- A. On the day before and during the day that is forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, a commercial farmer shall ensure implementation of best management practices as described in sections (B)(1)(b), (B)(2)(b), (B)(3)(b), (B)(4)(b), and (B)(5)(b).

**B.** On all days, a commercial farmer shall implement at least ~~one~~ two best management practices from each category to reduce PM emissions, as described below in subsections (1)(a), (2)(a), (3)(a), (4)(a), (5)(a), and (6) ~~and at least two best management practices from subsection (5)(a)~~. If a commercial farmer implements the Conservation tillage or Reduced tillage system best management practice for the tillage category, they do not have to implement a best management practice from the subsections (2)(a), (2)(b), (5)(a) and (5)(b).

1. Tillage:

a. A commercial farmer shall implement at least ~~one~~ two of the following:

- i. Combining tractor operations,
- ii. Equipment modification,
- iii. Multi-year crop,
- iv. Cessation of night tilling,
- v. Planting based on soil moisture,
- vi. Precision farming,
- vii. Tillage based on soil moisture,
- viii. Timing of a tillage operation,
- ix. Transgenic crops,
- x. Transplanting,
- xi. Reduced tillage system, or
- xii. Conservation tillage.

b. Unless choosing limited tillage activity (subsection iv, below), on the day before and during the day that is forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, a commercial farmer shall ensure implementation of at least one of the following:

- i. Multi-year crop,
- ii. Planting based on soil moisture,
- iii. Tillage based on soil moisture,
- iv. Limited tillage activity,
- v. Reduced tillage system, or
- vi. Conservation tillage.

2. Ground Operations and Harvest:

a. A commercial farmer shall implement at least ~~one~~ two of the following:

- i. Combining tractor operations,
- ii. Equipment modification,
- iii. Chemical irrigation,

- iv. Green chop,
  - v. Integrated pest management,
  - vi. Multi-year crop,
  - vii. Precision farming,
  - viii.Reduced harvest activity,
  - ix. Transgenic crops, or
  - x. Shuttle System/Larger Carrier.
- b. Unless choosing limited harvest activity (subsection iv, below), on the day before and during the day that is forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, a commercial farmer shall ensure implementation of at least one of the following:
- i. Green chop,
  - ii. Integrated pest management,
  - iii. Multi-year crop, or
  - iv. Limited harvest activity.
3. Noncropland:
- a. A commercial farmer shall implement at least ~~one~~ two of the following best management practices:
- i. Access restriction,
  - ii. Aggregate cover,
  - iii. Wind barrier,
  - iv. Critical area planting,
  - v. Organic material cover,
  - vi. Reduce vehicle speed,
  - vii. Synthetic particulate suppressant, or
  - viii.Watering.
- b. Unless choosing watering on a high risk day (subsection vi, below), on the day before and during a day forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, on a noncropland area that experiences more than 20 VDT from 2 or more axle vehicles, commercial farmer shall ensure implementation of at least one of the following best management practices:
- i. Aggregate cover,
  - ii. Wind barrier,
  - iii. Critical area planting,
  - iv. Organic material cover,

- v. Synthetic particulate suppressant, or
  - vi. Watering on a high risk day.
  - c. On each day that traffic accounts for 50 or more vehicle daily trips, or 20 or more vehicle daily trips with 3 or more axels, within an unpaved vehicle or equipment traffic area, the opacity of emissions shall be limited to no more than 20% measured according to 40 CFR 60, Appendix A, Reference Method 9.
4. Commercial farm roads:
- a. A commercial farmer shall implement at least ~~one~~ two of the following best management practices:
    - i. Access restriction,
    - ii. Reduce vehicle speed,
    - iii. Track-out control system,
    - iv. Aggregate cover,
    - v. Synthetic particulate suppressant,
    - vi. Watering, or,
    - vii. Organic material cover.
  - b. Unless choosing watering on a high risk day (subsection vi, below), on the day before and during a day forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, on a road that experiences more than 20 VDT from 2 or more axle vehicles, a commercial farmer shall ensure implementation of at least one of the following best management practices:
    - i. Aggregate cover,
    - ii. Synthetic particulate suppressant,
    - iii. Wind barrier,
    - iv. Organic material cover,
    - v. Roads are stabilized as determined by the silt content test method,
    - vi. Watering on a high risk day.
5. Cropland:
- a. A commercial farmer shall implement at least two of the following best management practices, one from subsection (i) through (vii), and one from subsection (viii) through (xi), to reduce PM emissions from cropland:
    - i. Wind barrier,
    - ii. Cover crop,
    - iii. Cross-wind ridges,

- iv. Chips/mulches,
  - v. Sequential cropping,
  - vi. Residue management,
  - vii. Surface roughening,
  - viii. Multi-year crop,
  - ix. Permanent cover, or
  - x. Stabilization of soil prior to plant emergence.
- b. On the day before and during the day that is forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, a commercial farmer shall ensure implementation of at least one of the following:
- i. Wind barrier,
  - ii. Cover crop,
  - iii. Cross-wind ridges,
  - iv. Chips/mulches,
  - v. Surface roughening,
  - vi. Multi-year crop,
  - vii. Permanent cover,
  - viii. Stabilization of soil prior to plant emergence, or
  - ix. Residue management.
6. ~~A commercial farmer shall implement at least one of the following best management practices, when conducting Significant Agricultural Earth Moving Activities as defined in R18-2-610:~~
- a. Apply water prior to conducting Significant Agricultural Earth Moving Activities and/or time Significant Agricultural Earth Moving Activities to coincide with precipitation. Soil must have a minimum soil moisture content of 50% of field capacity. Compliance shall be determined by NRCS Estimating Soil Moisture by Feel and Appearance Method, amended through April 1998 (and no future editions);
  - b. Apply water during Significant Agricultural Earth Moving Activities. Soil must have a minimum soil moisture content of 30% of field capacity. Compliance shall be determined by NRCS Estimating Soil Moisture by Feel and Appearance Method, amended through April 1998 (and no future editions);
  - c. Limit activities on a day identified by the Maricopa or Pinal County Dust Control Forecast to be high risk for dust generation; or

- d. Conduct Significant Agricultural Earth Moving Activities in a manner to reduce a minimum of one ground operation across a commercial farm by using equipment that is the most efficient means of moving the soil.
- C. From and after December 31, 2015, a commercial farmer who engages in a regulated agricultural activity shall complete a Best Management Practices Program General Permit Record Form demonstrating compliance with this rule. Thereafter, a new Best Management Practices Program General Permit Record Form shall be completed every year by March 31. The Form shall be provided to the Director within two business days of notice to the commercial farmer. The Best Management Practice Program General Permit Record Form shall include the following information:
1. The name of the commercial farmer, signature, and date signed;
  2. The mailing address or physical address of the commercial farm; and
  3. The following information for each best management practices selected for tillage, ground operations and harvest, cropland, noncropland, commercial farm roads, and significant earth moving activities (if applicable); and
  4. Any additional best management practices selected for high risk days as predicted by the Pinal County Dust Control Forecast.
- D. Beginning in calendar year 2017, and no more than once every subsequent three calendar years, the Director, in conjunction with the Arizona Department of Agriculture, shall provide the commercial farmer with a Best Management Practices Program 3-year Survey. The commercial farmer shall complete the Survey with data from the preceding calendar year and submit the Survey to the Arizona Department of Agriculture (ADA) by January 31, 2018, and every three years thereafter. The Survey information submitted to the ADA shall be compiled by the ADA without reference to a commercial farmer's name, shall aggregate the data from the Surveys received, and be submitted to the Department. The 3-year Survey shall include the following information:
1. The name, business address, and phone number of the commercial farmer responsible for the preparation and implementation of the best management practices;
  2. The signature of the commercial farmer and the date the form was signed;
  3. The acreage of each crop type planted/growing during the calendar year that the survey is conducted;
  4. The total miles of commercial farm roads at the commercial farm;
  5. The total acreage of the noncropland at the commercial farm;
  6. The best management practices selected for tillage, ground operations and harvest, cropland, noncropland, commercial farm roads, and significant earth moving activities (if applicable); and

7. Any additional best management practices selected for high risk days as predicted by the Pinal County Dust Control Forecast.
- E. Records of any changes to the Best Management Practices shall be noted on the Best Management Practices Program General Permit Record Form and shall be kept by the commercial farmer onsite and made available for review by the Director within two business days of notice to the commercial farmer.
- F. A person may develop different practices to control PM emissions not contained in subsections (B)(1) through (B)(6) and may submit such practices that are proven effective through on-farm demonstration trials to the Committee. ~~The proposed new practices shall not become effective unless submitted as described in A.R.S. § 49-457(L).~~
- G. A commercial farmer shall maintain a record demonstrating compliance with this Section for three years. Records shall include a copy of the complete Best Management Practice Program General Permit Record Form to confirm implementation of each best management practice.
- H. The Director shall not assess a fee to a commercial farmer for coverage under the agricultural PM general permit.
- I. A commercial farmer shall ensure that the implementation of all selected best management practices does not violate any other local, state, or federal law.
- J. The Director shall document noncompliance with this Section before issuing a compliance order.
- K. A commercial farmer who is not in compliance with this Section is subject to the provisions in A.R.S. § 49-457(~~I~~), (~~J~~), and (~~K~~).

**R18-2-611. Definitions for R18-2-611.01, R18-2-611.02, and R18-2-611.03**

The definitions in R18-2-101 and the following definitions apply to R18-2-611.01, R18-2-611.02, and R18-611.03:

1. The following definitions apply to a commercial dairy operation, a commercial beef feedlot, a commercial poultry facility, and commercial swine facility:
  - a. “Animal waste handling and transporting” means the processes by which any animal excretions and mixtures containing animal excretions are collected and transported.
  - b. “Arenas, corrals and pens” means areas where animals are confined for the purposes of, but not limited to, feeding, displaying, safety, racing, exercising, or husbandry.
  - c. “Commercial animal operation” means a commercial dairy operation, a commercial beef feedlot, a commercial poultry facility, and a commercial swine facility, as defined in this Section.
  - d. “Commercial animal operator” means an individual, entity, or joint operation in general control of a commercial animal operation.

- e. “Dust Control Forecast” means a forecast, which shall identify a low, moderate or high risk of dust generation for the next five consecutive days and shall be issued by noon on each day the forecast is generated. When developing these forecasts, the department shall consider all of the following:
  - i. Projected meteorological conditions, including:
    - (1) Wind speed and direction,
    - (2) Stagnation,
    - (3) Recent precipitation, and
    - (4) Potential for precipitation;
  - ii. Existing concentrations of air pollution at the time of the forecast; and
  - iii. Historic air pollution concentrations that have been observed during meteorological conditions similar to those that are predicted to occur in the forecast.
- f. “High traffic areas” means areas that experience more than 20 VDT from 2 or more axle vehicles.
- g. “Maricopa PM nonattainment area” means the Phoenix planning area as defined in 40 CFR 81.303, which is incorporated by reference in R18-2-210.
- h. “Paved Public Road” means any paved roadways that are open to public travel and maintained by a City, County, State, or Federal entities.
- i. “Pinal County PM Nonattainment Area” means the West Pinal PM<sub>10</sub> planning area and the West Central PM<sub>2.5</sub> planning area, as defined in 40 CFR 81.303, and incorporated by reference in R18-2-210.
- j. “PM” includes both particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured by a reference method based on 40 CFR 50 Appendix L, or by an equivalent method designated according to 40 CFR 53; and particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a reference method contained within 40 CFR 50 Appendix J or by an equivalent method designated in accordance with 40 CFR 53, as incorporated by reference in Appendix 2.
- k. “Regulated agricultural activity” means a regulated agricultural activity as defined in A.R.S. § 49-457(~~PQ~~)(5).
- l. “Regulated area” means the regulated area as defined in A.R.S. § 49-457(~~PQ~~)(6).
- m. “Track-out control device” means minimizing any and all material that adheres to and agglomerates on all vehicles and equipment from unpaved access connections and falls onto paved public roads or shoulders to paved public roads by using a device or system to remove



- mud or soil from a vehicle or equipment before the vehicle enters a paved public road. Devices such as a grizzly, a gravel pad or a wheel wash system can be used.
- n. “Unpaved access connections” means any unpaved road connection which connects to a paved public road.
  - o. “Unpaved roads or feed lanes” means roads and feed lanes that are unpaved, owned by a commercial animal operator, and used exclusively to service a commercial animal operation.
  - p. “Unpaved vehicle or equipment traffic area” means any area that is used for the fueling, servicing, receiving, transfer, parking or storing of equipment or vehicles.
  - pg. “VDT” (Vehicle trips per day) means trips per day made by one vehicle, in one direction.
2. The following definitions apply to a commercial dairy operation:
- a. “Aggregate cover” means reducing PM emissions, wind erosion and stabilizing soil by applying and maintaining gravel, concrete, recycled road base, caliche, or other similar material to unpaved roads or feed lanes. The aggregate should be clean, hard and durable, and should be applied and maintained to a minimum of three inches deep.
  - b. “Apply a fibrous layer” means reducing PM emissions and soil movement, and preserving soil moisture by spreading shredded or deconstructed plant materials to cover loose soil in high animal traffic areas. Material shall be consistently applied to a minimum depth of two inches above the soil surface and coverage should be a minimum of 70 percent.
  - c. “Bunkers” means below ground level storage systems for storing large amount of silage, which is covered with a plastic tarp.
  - d. “Calves” means young dairy stock under two months of age.
  - e. “Cement cattle walkways to milk barn” means reducing PM emissions by fencing pathways from the corrals to the milking barn, restricting dairy cattle to surfaces with concrete floors.
  - f. “Commercial dairy operation” means a dairy operation:
    - i. with more than 150 dairy cattle within the boundary of the Maricopa PM nonattainment area and Maricopa County portion of Area A<sub>7</sub> or a PM nonattainment area designated after June 1, 2009 as stated in A.R.S. § 49-457(P)(1)(f), or
    - ii. with more than 50 dairy cattle within the boundary of the Pinal County PM Nonattainment Area.
  - g. “Cover manure hauling trucks” means reducing PM emissions by completely covering the top of the loaded area.
  - h. “Covers for silage” means reducing PM emissions and wind erosion by using large plastic tarps to completely cover silage.

- i. “Do not run cattle” means reducing PM emissions by walking dairy cattle to the milking barn.
- j. “Feed higher moisture feed to dairy cattle” means reducing PM emissions by feeding dairy cattle one or any combination of the following:
  - i. Add water to ration mix to achieve a 20% minimum moisture level,
  - ii. Add molasses or tallow to ration mix at a minimum of 1%,
  - iii. Add silage, or
  - iv. Add green chop.
- k. “Feed green chop” means feeding high moisture feed that contains at least 30% moisture directly to dairy cattle.
- l. “Groom manure surface” means reducing PM emissions and wind erosion by:
  - i. Flushing or vacuuming lanes daily,
  - ii. Scraping and harrowing pens on a weekly basis, and
  - iii. Removing manure every four months with equipment that leaves an even corral surface of compacted manure on top of the soil.
- m. “Hutches” means raised, roofed enclosures that protect the calves from the elements.
- n. “Pile manure between cleanings” means reducing PM emissions by collecting loose surface materials within the confines of the surface area of the occupied feed pen every two weeks.
- o. “Provide cooling in corral” means reducing PM emissions by using cooling systems under the corral shades to reduce the ambient air temperature, thereby increasing stocking density in the cool areas of the corrals.
- p. “Provide shade in corral” means reducing PM emissions by increasing stocking density and reducing animal movement by using a permanent structure, which provides at least 16 square feet per animal of shaded pen surface.
- q. “Push equipment” means manure harvesting equipment pushed in front of a tractor.
- r. “Silage” means fermented, high-moisture fodder that can be fed to ruminants, such as cattle and sheep; usually made from grass crops including corn, sorghum or other cereals, by using the entire green plant.
- s. “Store and maintain feed stock” means reducing PM emissions and wind erosion by storing feed stock in a covered area where the commodity is surrounded on at least three sides by a structure.
- t. “Synthetic particulate suppressant” means reducing PM emissions and wind erosion by providing a stabilized soil surface on a commercial dairy operation with a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, an emulsion of a

- petroleum product, an enzyme product, or polyacrylamide that is used to control particulate matter.
- u. “Use drag equipment to maintain pens” means reducing PM emissions by using manure equipment pulled behind a tractor instead of using push equipment, which avoids dust accumulation in floor depressions.
  - v. “Use free stall housing” means reducing PM emissions by enclosing one cow per stall, which are outfitted with concrete floors.
  - w. “Water misting systems” means reducing PM emissions from dry manure by using systems that project a cloud of very small water particles onto the manure surface, keeping the surface visibly moist.
  - x. “Wind barrier” means reducing PM<sub>10</sub> emissions and wind erosion by constructing a fence or structure, or providing a woody vegetative barrier by planting a row of trees or shrubs, perpendicular or across the prevailing wind direction to reduce wind speed by changing the pattern of air flow over the land surface. For fences and structures, the wind barrier shall have a density of no less than 50% and the height of the wind barrier must be proportionate to the downwind protected area. The downwind protected area is considered ten times the height of the wind barrier. For vegetative barriers, compliance shall be determined by NRCS Conservation Practice Standard, Code 380, Windbreak/Shelterbelt Establishment, amended through August 21, 2009 (and no future editions).
3. The following definitions apply to a commercial beef cattle feedlot:
- a. “Add moisture to pen surface” means reducing PM emissions and wind erosion by applying at least three to six gallons of water per head/per day in pens occupied by beef cattle.
  - b. “Add molasses or tallow to feed” means reducing PM emissions by adding molasses or tallow so that it equals three percent of the total ration.
  - c. “Aggregate cover” means reducing PM emissions, wind erosion and stabilizing soil by applying and maintaining gravel, concrete, recycled road base, caliche, or other similar material to unpaved roads or feed lanes. The aggregate should be clean, hard and durable, and should be applied and maintained to a minimum of three inches deep.
  - d. “Apply a fibrous layer in working areas” means reducing PM emissions and soil movement, and preserving soil moisture by spreading shredded or deconstructed plant materials to cover loose soil in high animal traffic areas. Material shall be consistently applied to a minimum depth of two inches above the soil surface and coverage should be a minimum of 70 percent.
  - e. “Bulk materials” means reducing PM emissions by using a closed conveyor system instead of vehicular means to move grain or other.

- f. “Commercial beef cattle feedlot” means a beef cattle feedlot:
  - a. with more than 500 beef cattle within the boundary of the Maricopa PM nonattainment area and Maricopa County portion of Area A<sub>7</sub> or a PM nonattainment area designated after June 1, 2009 as ~~stated in A.R.S. § 49-457(P)(1)(f)~~, or
  - b. with more than 50 beef cattle within the Pinal County PM Nonattainment Area.
- g. “Concrete apron” means reducing PM emissions by using solidly formed concrete surface, at least 4 inches thick on top of the soil surface, inside the feed pen for 8 feet approaching the feed bunk or water trough.
- h. “Control cattle during movements” means reducing PM emissions by suppressing the animal’s ability to run by driving them forward while intruding on their “flight zones” or restraining the animal’s movement.
- i. “Cover manure hauling trucks” means reducing PM emissions by completely covering the top of the loaded area.
- j. “Feed higher moisture feed to beef cattle” means reducing PM emissions by feeding beef cattle feed that contains at least 30% moisture.
- k. “Frequent manure removal” means reducing PM emissions and wind erosion by harvesting loose manure on top of the pen surface at least once every six months.
- l. “Pile manure between cleanings” means reducing PM emissions by collecting loose manure surface materials, by scraping or pushing, within the confines of the surface area of the occupied feed pen at least four times per year.
- m. “Provide shade in corral” means reducing PM emissions by increasing stocking density and reducing animal movement by using a permanent structure, which provides at least 16 square feet per animal of shaded pen surface.
- n. “Push equipment” means manure harvesting equipment pushed in front of a tractor.
- o. “Store and maintain feed stock” means reducing PM emissions and wind erosion by storing feed stock in a covered area where the commodity is surrounded on at least three sides by a structure.
- p. “Synthetic particulate suppressant” means reducing PM emissions and wind erosion by providing a stabilized soil surface on a commercial beef feedlot with a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, an emulsion of a petroleum product, an enzyme product, or polyacrylamide that is used to control particulate matter.
- q. “Use drag equipment to maintain pens” means reducing PM emissions by using manure harvesting equipment pulled behind a tractor instead of using push equipment, which avoids dust accumulation in floor depressions.

- r. “Wind barrier” means reducing PM10 emissions and wind erosion by constructing a fence or structure, or providing a woody vegetative barrier by planting a row of trees or shrubs, perpendicular or across the prevailing wind direction to reduce wind speed by changing the pattern of air flow over the land surface. For fences and structures, the wind barrier shall have a density of no less than 50% and the height of the wind barrier must be proportionate to the downwind protected area. The downwind protected area is considered ten times the height of the wind barrier. For vegetative barriers, compliance shall be determined by NRCS Conservation Practice Standard, Code 380, Windbreak/Shelterbelt Establishment, amended through August 21, 2009 (and no future editions).
4. The following definitions apply to a commercial poultry facility:
- a. “Add moisture through ventilation systems” means reducing PM emissions by using a ventilation system that is designed to allow stock to maintain their normal body temperature without difficulty while maintaining a minimum of 20% moisture in the air within the housing system to bind small particles to larger particles.
  - b. “Add oil and/or moisture to the feed” means reducing PM emissions by adding a minimum of 1% edible oil and/or moisture to feed rations to bind small particles to larger particles.
  - c. “Aggregate cover” means reducing PM emissions, wind erosion and stabilizing soil by applying and maintaining gravel, concrete, recycled road base, caliche, or other similar material to unpaved roads or feed lanes. The aggregate should be clean, hard and durable, and should be applied and maintained to a minimum of three inches deep.
  - d. “Clean aisles between cage rows” means reducing PM emissions by cleaning the aisles between cage rows at least twice every 14 days to prevent dried manure, spilled feed, and debris accumulation.
  - e. “Clean fans, louvers, and soffit inlets in a commercial poultry facility” means reducing PM emissions by cleaning fans, louvers, and soffit inlets when the facility is empty between depopulating and populating the facility.
  - f. “Clean floors and walls in a commercial poultry facility” means reducing PM emissions by cleaning floors and walls to prevent dried manure, spilled feed, and debris accumulation when the facility is empty between depopulating and populating the facility.
  - g. “Commercial poultry facility” means a poultry operation with more than 25,000 egg laying hens within the boundary of the Maricopa PM nonattainment area and Maricopa County portion of Area A, a PM nonattainment area designated after June 1, 2009 as stated in A.R.S. § 49-457(PQ)(1)(f), or the Pinal County PM Nonattainment Area.

- h. “Control vegetation on building exteriors” means reducing PM emissions by removing, cutting, or trimming vegetation that accumulates PM and restricts ventilation of the building, so as to leave approximately 3 feet between the vegetation and building.
- i. “Enclose transfer points” means reducing PM emissions by enclosing the points of transfer between the enclosed, weatherproof storage structure and the enclosed feed distribution system, which reduce air contact with the feed rations during feed conveyance.
- j. “House in fully enclosed ventilated buildings” means reducing PM emissions by utilizing fully enclosed buildings with sufficient ventilation.
- k. “Maintain moisture in manure solids” means reducing PM emissions by maintaining a moisture content of a minimum of 15% in the solids sufficient to bind small particles to larger particles.
- l. “Minimize drop distance” means reducing PM emissions by designing the feed distribution system so that the distance the feed ration drops from the feed distribution system into feeders is approximately 1 foot or less, which reduces air contact with the feed rations during feed conveyance.
- m. “Poultry” means any domesticated bird including chickens, turkeys, ducks, geese, guineas, ratites and squabs.
- n. “Remove spilled feed” means reducing PM emissions by removing spilled feed from the housing facility at least once every 14 days.
- o. “Stack separated manure solids” means reducing PM emissions and wind erosion by reducing the amount of exposed surface area of manure solids.
- p. “Store feed” means reducing PM emissions by storing feed in a structure that is enclosed and weatherproof, which reduces air contact with the feed rations during feed storage.
- q. “Synthetic particulate suppressant” means reducing PM emissions and wind erosion by providing a stabilized soil surface on a commercial poultry operation with a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, an emulsion of a petroleum product, an enzyme product, or polyacrylamide that is used to control particulate matter.
- r. “Use enclosed feed distribution system” means reducing PM emissions by using an enclosed feed conveyance system that distributes feed rations throughout the housing facility, which reduces air contact with the feed rations during feed conveyance.
- s. “Use a flexible discharge spout” means reducing PM emissions and wind erosion at the time of bulk feed deliveries to the housing units by using a flexible discharge spout on the end of the feed truck transfer auger.

- t. “Use no bedding in the production facility” means reducing PM emissions by not using bedding such as wood shavings, sawdust, peanut hulls, straw, or other organic material.
  - u. “Use of a rotary dryer to dry manure waste” means reducing PM10 emissions by drying the manure waste in a rotary dryer fitted with a baghouse or wet scrubber. A commercial poultry facility using a rotary dryer must comply with all of the following:
    - i. Install, maintain, and operate the baghouse or wet scrubber in a manner consistent with the manufacturer’s specifications at all times the rotary dryer is operated. The manufacturer specifications must be available on site upon request.
    - ii. Conduct monthly observations using EPA Method 22 on the control equipment to ensure proper operation. If improper operation is observed through EPA Method 22, the dryer must stop immediately and the equipment repaired before resuming operations.
    - iii. For baghouses, conduct an annual black light inspection of the bags to detect broken or leaking bags. If broken or leaking bags are detected it must be repaired or replaced immediately.
    - iv. Maintain a record of all repair activity required under (ii) and (ii) that must be made available within two days of Director’s request for inspection.
5. The following definitions apply to a commercial swine facility:
- a. “Add oil and/or moisture to the feed” means reducing PM emissions by adding a minimum of 0.5% edible oil and/or moisture to feed rations to bind small particles to larger particles.
  - b. “Add moisture through ventilation systems” means reducing PM emissions by using a ventilation system that is designed to allow stock to maintain their normal body temperature without difficulty while maintaining minimum of 15% moisture in the air within the housing system to bind small particles to larger particles.
  - c. “Aggregate cover” means reducing PM emissions, wind erosion and stabilizing soil by applying and maintaining gravel, concrete, recycled road base, caliche, or other similar material to unpaved roads or feed lanes. The aggregate should be clean, hard and durable, and should be applied and maintained to a minimum of three inches deep.
  - d. “Clean aisles between pens and stalls” means reducing PM emissions by cleaning the aisles between pens and stalls at least twice every 14 days to prevent dried manure, spilled feed, and debris accumulation.
  - e. “Clean fans, louvers, and soffit inlets in a commercial swine facility” means reducing PM emissions by cleaning fans, louvers, and soffit inlets between transfer of animal groups, but in any case, at least every 6 months.

- f. “Clean pens, floors and walls in a commercial swine facility” means reducing PM emissions by cleaning pens, floors, and walls between transfer of animal groups to prevent dried manure, spilled feed, and debris accumulation, but in any case, at least every 6 months.
- g. “Commercial swine facility” means a swine operation with more than 50 animal units for more than 30 consecutive days within the boundary of the Maricopa PM nonattainment area and Maricopa County portion of Area A, a PM nonattainment area designated after June 1, 2009 as stated in A.R.S. § 49-457(~~PQ~~)(1)(f), or the Pinal County PM Nonattainment Area. One thousand pounds equals one animal unit.
- h. “Control vegetation on building exteriors” means reducing PM emissions by removing, cutting, or trimming vegetation that accumulates PM and restricts ventilation of the building, so as to leave approximately 3 feet between the vegetation and the building.
- i. “Enclose transfer points” means reducing PM emissions by enclosing the points of transfer between the enclosed, weatherproof storage structure and the enclosed feed distribution system, which reduces air contact with the feed rations during feed conveyance.
- j. “House in fully enclosed ventilated buildings” means reducing PM emissions by utilizing fully enclosed buildings with sufficient ventilation.
- k. “Lagoon” means a liquid manure storage and treatment pond.
- l. “Maintain moisture in manure solids” means reducing PM10 emissions by maintaining a minimum moisture content of 10% in the solids sufficient to bind small particles to larger particles.
- m. “Minimize drop distance” means reducing PM emissions by designing the feed distribution system so that the distance the feed ration drops from the feed distribution system into feeders is 3 feet or less, which reduces air contact with the feed rations during feed conveyance.
- n. “Remove spilled feed” means reducing PM emissions by removing spilled feed from the housing facility at least once every 14 days.
- o. “Slatted flooring” means reducing PM emissions by using flooring that is a slotted concrete or wire-mesh floor set above a liquid manure collection pit, which allows the excrement to fall through the flooring into the liquid pit below, which prevents solids build-up. Slats 4 to 8 inches wide with spacing of about 1 inch in between are recommended.
- p. “Sloped concrete flooring” means reducing PM emissions by pouring concrete with a minimum of 0.25% grade inside of the barns which provides drainage and easier cleaning of floor areas.
- q. “Stack separated manure solids” means reducing PM emissions and wind erosion by reducing the amount of exposed surface area of manure solids.



- r. “Store feed” means reducing PM emissions by storing feed in a structure that is enclosed and weatherproof, which reduces air contact with the feed rations during feed storage.
- s. “Store separated manure solids” means reducing PM emissions by storing manure solids in a wind-blocked area behind a wall, structure, or area with natural wind protection to minimize blowing air movement over the manure stack.
- t. “Synthetic particulate suppressant” means reducing PM emissions and wind erosion by providing a stabilized soil surface on a commercial swine operation with a manufactured product such as lignosulfate, calcium chloride, magnesium chloride, an emulsion of a petroleum product, an enzyme product, or polyacrylamide that is used to control particulate matter.
- u. “Use a flexible discharge spout” means reducing PM emissions and wind erosion at the time of bulk feed deliveries to the housing units by using a flexible discharge spout on the end of the feed truck transfer auger.
- v. “Use enclosed feed distribution system” means reducing PM emissions by using an enclosed feed conveyance system that distributes feed rations throughout the housing facility, which reduces air contact with the feed rations during the feed conveyance.
- w. “Use no bedding in the production facility” means reducing PM emissions by not using bedding such as wood shavings, sawdust, peanut hulls, straw, or other organic material.

**R18-2-611.03. Agricultural PM General Permit for Animal Operations; Pinal County PM**

**Nonattainment Area**

- A. A commercial animal operator within the Pinal County PM Nonattainment Area shall implement at least one best management practice from each of the categories identified in subsection (D)(5) and (E)(5) and two best management practices from each category of the other categories to reduce PM emissions.
- B. In addition to subsection (A), on the day that is forecast to be high risk for dust generation by the Pinal County Dust Control Forecast, commercial dairy operations within the Pinal County PM Nonattainment Area shall apply and maintain one of the four following BMPs on unpaved roads that experience more than 20 VDT from 2 or more axle vehicles:
  1. Apply and maintain pavement in high traffic areas,
  2. Apply and maintain aggregate cover,
  3. Apply and maintain synthetic particulate suppressant, or
  4. Apply and maintain water as a dust suppressant.

- C. In addition to subsection (A), commercial beef feedlots within the Pinal County PM Nonattainment Area, shall add water to pen surface, as defined in R18-2-611(3)(a), on the day that is forecast to be high risk for dust generation by the Pinal County Dust Control Forecast.
- D. A commercial dairy operation shall implement the following best management practices, as described in subsection (A), from each of the following categories:
1. Arenas, Corrals, and Pens:
    - a. Use free stall housing,
    - b. Provide shade in corral,
    - c. Provide cooling in corral,
    - d. Cement cattle walkways to milk barn,
    - e. Groom manure surface,
    - f. Water misting systems,
    - g. Use drag equipment to maintain pens,
    - h. Pile manure between cleanings,
    - i. Feed green chop,
    - j. Keep calves in barns or hutches,
    - k. Do not run cattle,
    - l. Apply a fibrous layer, or
    - m. Wind barrier.
  2. Animal Waste (and Feed) Handling and Transporting:
    - a. Feed higher moisture feed to dairy cattle,
    - b. Store and maintain feed stock,
    - c. Covers for silage,
    - d. Store silage in bunkers,
    - e. Cover manure hauling trucks, or
    - f. Do not load manure trucks with dry manure when wind exceeds 15 mph.
  3. Unpaved Access Connections:
    - a. Install signage to limit vehicle speed to 15 mph,
    - b. Install speed control devices,
    - c. Restrict access to through traffic,
    - d. Install and maintain a track-out control device,
    - e. Apply and maintain pavement in high traffic areas,
    - f. Apply and maintain aggregate cover,
    - g. Apply and maintain synthetic particulate suppressant, or

- h. Apply and maintain water as a dust suppressant.
4. Unpaved Roads or Feed Lanes:
- a. Install engine speed governors on feed truck to 15 mph,
  - b. Install signage to limit vehicle speed to 15 mph,
  - c. Install speed control devices,
  - d. Restrict access to through traffic,
  - e. Apply and maintain pavement in high traffic areas,
  - f. Apply and maintain aggregate cover,
  - g. Apply and maintain synthetic particulate suppressant,
  - h. Apply and maintain water as a dust suppressant,
  - i. Use appropriate vehicles such as electric carts or small utility vehicles instead of trucks, or
  - j. Apply and maintain pavement or cement feed lanes.
5. Unpaved Vehicle or Equipment Traffic Area:
- a. Apply and maintain aggregate cover,
  - b. Apply and maintain synthetic particulate suppressant,
  - c. Apply and maintain water as a dust suppressant, or
  - d. Use appropriate vehicles such as electric carts or small utility vehicles instead of trucks.
- E. A commercial beef cattle feedlot shall implement the following best management practices, as described in subsection (A), from each of the following categories:
1. Arenas, Corrals, and Pens:
- a. Concrete aprons,
  - b. Provide shade in corral,
  - c. Add water to pen surface,
  - d. Manure removal,
  - e. Pile manure between cleanings,
  - f. Feed higher moisture feed to beef cattle,
  - g. Control cattle during movements,
  - h. Use drag equipment to maintain pens,
  - i. Apply a fibrous layer, or
  - j. Wind barrier.
2. Animal Waste (and Feed) Handling and Transporting:
- a. Feed higher moisture feed to beef cattle;
  - b. Add molasses or tallow to feed,
  - c. Store and maintain feed stock,

- d. Bulk materials,
  - e. Use drag equipment to maintain pens,
  - f. Cover manure hauling trucks, or
  - g. Do not load manure when wind exceeds 15 mph.
3. Unpaved Access Connections:
- a. Install and maintain a track-out control device,
  - b. Apply and maintain pavement in high traffic areas,
  - c. Apply and maintain aggregate cover,
  - d. Apply and maintain synthetic particulate suppressant, or
  - e. Apply and maintain water as a dust suppressant.
4. Unpaved Roads or Feed Lanes:
- a. Install engine speed governors on feed truck to 15 mph,
  - b. Install signage to limit vehicle speed to 15 mph,
  - c. Install speed control devices,
  - d. Restrict access to through traffic,
  - e. Apply and maintain pavement in high traffic areas,
  - f. Apply and maintain aggregate cover,
  - g. Apply and maintain synthetic particulate suppressant,
  - h. Apply and maintain water as a dust suppressant, or
  - i. Apply and maintain oil on roads or feed lanes.
5. Unpaved Vehicle or Equipment Traffic Area:
- a. Apply and maintain aggregate cover,
  - b. Apply and maintain synthetic particulate suppressant,
  - c. Apply and maintain water as a dust suppressant, or
  - d. Use appropriate vehicles such as electric carts or small utility vehicles instead of trucks.
- F.** A commercial poultry facility shall implement the following best management practices, as described in subsection (A), from each of the following categories:
1. Arenas, Corrals, and Pens (Housing):
    - a. Clean fans, louvers, and soffit inlets in a commercial poultry facility,
    - b. Use no bedding,
    - c. Control vegetation on building exteriors,
    - d. Add moisture through ventilation systems, or
    - e. House in fully enclosed ventilated buildings.
  2. Animal Waste (and Feed) Handling and Transporting:

- a. Remove spilled feed,
  - b. Store feed,
  - c. Add oil and/or moisture to the feed,
  - d. Use enclosed feed distribution system,
  - e. Use flexible discharge spout,
  - f. Minimize drop distance,
  - g. Enclose transfer points,
  - h. Clean floors and walls in a commercial poultry facility,
  - i. Clean aisles between cage rows,
  - j. Stack separated manure solids, or
  - k. Maintain moisture in manure solids.
3. Unpaved Access Connections:
- a. Install speed control devices,
  - b. Restrict traffic access,
  - c. Install and maintain a track-out control system, or
  - d. Install signage to limit vehicle speed to 15 mph.
4. Unpaved Roads or Feed Lanes:
- a. Install engine speed governors on feed trucks to 15 mph,
  - b. Install signage to limit vehicle speed to 15 mph,
  - c. Install speed control devices,
  - d. Restrict traffic access,
  - e. Apply and maintain aggregate cover,
  - f. Apply and maintain synthetic particulate suppressant,
  - g. Apply and maintain water, or
  - h. Apply and maintain oil on roads or feed lanes.
- G.** A commercial swine facility shall implement the following best management practices, as described in subsection (A), from each of the following categories:
1. Arenas, Corrals, and Pens (Housing):
- a. House in fully enclosed ventilated buildings,
  - b. Use no bedding,
  - c. Use a slatted floor system,
  - d. Use sloped concrete flooring,
  - e. Clean fans, louvers, and soffit inlets in a commercial swine facility,
  - f. Control vegetation on building exteriors, or

- g. Add moisture through ventilation systems.
- 2. Animal Waste (and Feed) Handling and Transporting:
  - a. Remove spilled feed,
  - b. Store feed,
  - c. Add oil and/or moisture to feed,
  - d. Use enclosed feed distribution system,
  - e. Use flexible discharge spout,
  - f. Minimize drop distance,
  - g. Enclose transfer points,
  - h. Clean pens, floors, and walls in a commercial swine facility,
  - i. Clean aisles between pens and stalls,
  - j. Store separated manure solids in a wind-blocked area,
  - k. Stack separated manure solids,
  - l. Maintain moisture in manure solids, or
  - m. Maintain liquid lagoon level.
- 3. Unpaved Access Connections:
  - a. Install speed control devices,
  - b. Restrict traffic access,
  - c. Install and maintain a track-out control system,
  - d. Install signage to limit vehicle speed to 15 mph.
- 4. Unpaved Roads or Feed Lanes:
  - a. Install engine speed governors on feed trucks to 15 mph,
  - b. Install signage to limit vehicle speed to 15 mph,
  - c. Install speed control devices,
  - d. Restrict traffic access,
  - e. Apply and maintain aggregate cover,
  - f. Apply and maintain synthetic particulate suppressant,
  - g. Apply and maintain water,
  - h. Apply and maintain oil on roads or feed lanes, or
  - i. Wind barrier.

**H.** From and after December 31, 2015, a commercial animal operator who engages in a regulated agricultural activity shall complete a Best Management Practices Program General Permit Record Form. Thereafter, a new Best Management Practices Program General Permit Record Form shall be completed every year by March 31. The Form shall be provided to the Director within two business

days of notice to the commercial animal operator. The Best Management Practices Program General Permit Record Form shall include the following information:

1. The name of the commercial animal operator, signature, and date signed,
2. The mailing address or physical address of the commercial animal operation, and
3. The best management practices selected for Arenas, Corrals, and Pens, Animal Waste Handling and Transporting, Unpaved Access Connections, and Unpaved Roads or Feed Lanes.

**I.** Beginning in calendar year 2017, and no more than once every subsequent three calendar years, the Director shall provide the commercial animal operator with a Best Management Practices Program 3-year Survey. The commercial animal operator shall complete the Survey with data from the preceding calendar year and submit the Survey to the Arizona Department of Agriculture (ADA) by January 31, 2018, and every three years thereafter. The Survey information submitted to the ADA shall be compiled by the ADA in a format that does not refer to a commercial animal operator's name, shall aggregate the data from the Surveys received, and be submitted to the Department. The 3-year Survey shall include the following information:

1. The name, business address, and phone number of the commercial farmer responsible for the preparation and implementation of the best management practices;
2. The signature of the commercial farmer and the date the form was signed;
3. The number of animals in a commercial dairy operation, beef cattle feed lot, poultry facility or swine facility;
4. The total miles of unpaved roads at the commercial dairy operation, beef cattle feed lot, poultry facility or swine facility;
5. The total acreage of the unpaved access connections and equipment areas at the commercial dairy operation, beef cattle feed lot, poultry facility or swine facility;
6. The best management practices selected for each category; and
7. For commercial dairy operations and beef cattle feedlots, an acknowledgement that water was applied on the day of a high risk day as predicted by the Pinal County Dust Control Forecast.

**J.** Beginning January 1, 2016, a commercial animal operator shall maintain records demonstrating compliance with this Section for three years. Records shall include a copy of the complete Best Management Practice Program General Permit Record Form to confirm implementation of each best management practice and any changes to the best management practices. Records shall be kept by the commercial animal operator onsite and made available for review by the Director within two business days of notice to the commercial animal operator.

**K.** A person may develop different practices not contained in subsection (D), (E), (F), or (G) that reduce PM and may submit such practices that are proven effective through on-operation demonstration trials

to the Committee. ~~The new best management practices shall not become effective unless submitted as described in A.R.S. § 49-457(L).~~

- L.** The Director shall not assess a fee to a commercial animal operator for coverage under the agricultural PM general permit.
- M.** A commercial animal operator shall ensure that the implementation of all selected best management practices does not violate any other local, state, or federal law.
- N.** The Director shall document noncompliance with this Section before issuing a compliance order.
- O.** A commercial animal operator who is not in compliance with this Section is subject to the provisions in A.R.S. § 49-457(~~H~~), (~~J~~K), and (~~L~~L).