

RULE 4103 OPEN BURNING (Adopted June 18, 1992; Amended December 17, 1992; Amended December 16, 1993; Amended June 21, 2001; Amended September 16, 2004; Amended May 19, 2005; Amended May 17, 2007; Amended April 15, 2010 - Not effective until June 1, 2010)

1.0 Purpose

The purpose of this rule is to permit, regulate, and coordinate the use of open burning while minimizing smoke impacts on the public.

2.0 Applicability

This rule applies to open burning conducted in the San Joaquin Valley Air Basin, with the exception of prescribed burning and hazard reduction burning as defined in Rule 4106 (Prescribed Burning and Hazard Reduction Burning).

3.0 Definitions

3.1 Agricultural Burning:

3.1.1 The open burning of vegetative materials produced wholly from agricultural operations.

3.1.2 The burning of grass and weeds in fence rows, ditch banks, and berms in non-tillage orchard operations and fields being prepared for cultivation.

3.1.3 The burning of materials not produced wholly from agricultural operations but which are essential to agricultural operations, except as prohibited by Section 5.5.7 of this rule. Examples are paper trays for drying raisins, paper hot caps, untreated grape stakes, and pesticide and fertilizer sacks burned in the field where they are emptied.

3.2 Agricultural Operations: 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.

3.3 Agricultural Waste: any vegetative materials produced wholly from agricultural operations, the operation or maintenance of a system for the delivery of water in agricultural operations, or materials described in Section 3.1.3.

3.4 Air Pollution Control Officer (APCO): the Air Pollution Control Officer of the San Joaquin Valley Unified Air Pollution Control District, as defined in Rule 1020 (Definitions).

- 3.5 Air Quality: the characteristics of the ambient air as indicated by concentrations of the six criteria air pollutants for which Federal and State standards have been established pursuant to section 108 and 109 of the Federal Clean Air Act [i.e., particulate matter, sulfur dioxide, nitrogen dioxide, ozone, carbon monoxide and lead], by State air quality standards, and by visibility in mandatory Federal Class I areas, as specified pursuant to section 169A of the Federal Clean Air Act.
- 3.6 Allocation System: a system in the smoke management program that limits the amounts, timing, and locations of burning in order to minimize smoke impacts.
- 3.7 Ambient Air: that portion of the atmosphere, external to buildings, to which the general public has access.
- 3.8 Ambient Air Quality Standards: the national ambient air quality standards (NAAQS) promulgated by the US Environmental Protection Agency.
- 3.9 Approved Ignition Devices: those instruments or materials that will ignite agricultural waste and other materials without the production of black smoke by the ignition device. This would include such devices as liquid petroleum gas, butane, propane, or diesel oil burners and flares where the device produces a flame and the flame is then used for ignition, or other devices approved by the Air Pollution Control Officer (APCO).
- 3.10 ARB or State Board: the California Air Resources Board.
- 3.11 Board: the Governing Board of the San Joaquin Valley Unified Air Pollution Control District, as defined in Rule 1020 (Definitions).
- 3.12 Campfire: an attended recreational fire at a designated campground or in a Wildland, as defined in Rule 4106 (Prescribed Burning and Hazard Reduction Burning), when approved by the appropriate land manager. A campfire shall not be larger than three feet in diameter and the fuel must be clean, dry wood with no other debris, trash, garbage or refuse.
- 3.13 Contraband: any illegal material or prohibited good that has been confiscated within the San Joaquin Valley Air Basin by a law enforcement agency or fire department, including but not limited to explosives, pyrotechnics, and illegal drugs.
- 3.14 EPA: the United States Environmental Protection Agency or any person designated to act on its behalf.

- 3.15 Field Crops: includes alfalfa, asparagus, barley stubble, beans, corn, cotton, flower straw, hay, lemon grass, oat stubble, pea vines, peanuts, rice stubble, safflower, sugar cane, vegetable crops, and wheat stubble, and other field crops, as determined by the State Board.
- 3.16 Fire Hazard: a situation in which a fire could present a threat to the health and/or safety of a person or persons but which does not impose imminent fire danger.
- 3.17 Fire Protection Agency: any agency with the responsibility and authority to protect people, property, and the environment from fire, and having jurisdiction within the San Joaquin Valley Air Basin.
- 3.18 Imminent and Substantial Economic Loss: the loss of a planting season or the irreparable harm of a crop.
- 3.19 Imminent Fire Hazard: a hazard that presents imminent danger to the health and/or safety of a person or persons and for which direct abatement by fire is necessary.
- 3.20 Metropolitan Area: the sphere of influence of an incorporated city as defined by the Local Agency Formation Commission.
- 3.21 No-Burn Day: any day on which agricultural burning is prohibited by the ARB, the District, or by a public fire protection agency for purposes of fire control or prevention.
- 3.22 Noxious Weeds: as defined in Section 403 of the Plant Protection Act (7 USC 7702).
- 3.23 Open Burning or Open Outdoor Fire: the combustion of any combustible refuse or other material of any type outdoors in the open air, not in any enclosure, where the products of combustion are not directed through a flue. For the purposes of this rule, prescribed burning and hazard reduction burning are not considered to be open burning.
- 3.24 Orchard Removal Matter: agricultural waste generated by the removal of orchards. This includes leaves, branches, trunks, roots, stumps and untreated branch support sticks.
- 3.25 Orchard Removals: includes, but is not limited to orchard removal matter, stumps, and untreated sticks.
- 3.26 Other Materials: includes, but is not limited to brooder paper, deceased goats, and diseased bee hives.

- 3.27 Other Weeds and Maintenance: includes, but is not limited to, ditch bank work, canal bank work, dodder weed, star thistle, tumbleweed, noxious weeds, pesticide sacks, and fertilizer sacks burned in the fields where they are emptied.
- 3.28 Permit: as used herein refers to a District Open Burn Permit.
- 3.29 Prunings: the vegetative material produced from the regularly scheduled removal of any portion of the agricultural crop for the purpose of achieving a desired size, shape, or to promote plant growth for improved cultivation, harvesting, and the maintenance of crop health. The regularly scheduled removal does not include the incidental cuttings of dead or broken branches, water-sprouts or suckers, and other damaged crops. For the purpose of this rule, prunings shall refer to prunings from apple crops, apricot crops, avocado crops, bushberry crops, cherry crops, Christmas trees, citrus crops, date crops, eucalyptus crops, fig crops, kiwi crops, nectarine crops, nursery prunings, olive crops, pasture or corral trees, peach crops, pear crops, persimmon crops, pistachio crops, plum crops, pluot crops, pomegranate crops, prune crops, quince crops, rose crops, and other prunings, as determined by the State Board.
- 3.30 Religious Ceremonial Fires: any fires conducted to fulfill the doctrinal requirements of an organized religion.
- 3.31 Residual Rice Stubble: rice stubble remaining on the field that can not be removed completely by the bailing equipment.
- 3.32 Single Location: a property where burning is conducted, which is under the same or common ownership or operation, and located on one (1) or more parcels. For burn permit and fire reporting purposes, properties separated by rivers, streams, or publicly owned roadways and canals are considered separate locations.
- 3.33 Smoke Management Program: a District program that utilizes a daily allocation system for the purpose of limiting the amounts, timing, and locations of open burning to minimize smoke impacts. The smoke management program considers several factors including air quality, meteorological conditions expected during burning, locations of smoke sensitive areas, locations of materials to be burned, and types and amounts of materials to be burned.
- 3.34 Smoke Sensitive Areas: are populated areas and other areas where the District determines that smoke and air pollutants can adversely affect public health or welfare. Such areas can include, but are not limited to, towns and villages, campgrounds, trails, populated recreational areas, hospitals, nursing homes, schools, roads, airports, public events, shopping centers and mandatory Class 1 areas.

- 3.35 Spot Burning: burning of rice stubble in areas of the field where rice stubble has been compacted or flattened by the harvesting or baling equipment tracks.
- 3.36 Surface Harvested Prunings: the vegetative material produced from the regularly scheduled removal of any portion of the agricultural crop for the purpose of achieving a desired size, shape, or to promote plant growth for improved cultivation, harvesting, and the maintenance of crop health. The regularly scheduled removal does not include the incidental cuttings of dead or broken branches, water-sprouts or suckers, and other damaged crops. For the purpose of this rule, surface harvested prunings includes, but is not limited to, almond prunings, walnut prunings, pecan prunings, grape vines, and vineyard materials.
- 3.37 Toxic Substances: substances identified by the manufacturer on the package or in a material safety data sheet as posing health hazards.
- 3.38 Vineyard Removal Materials: agricultural waste generated by the removal of vineyards. This includes grape vines, grape canes, trunks, roots, untreated grapestakes, and wires, as well as similar materials from kiwi vineyards.
- 3.39 Vineyard Materials: includes, but is not limited to, grape canes and raisin trays.
- 3.40 Weed Abatement: the reduction or removal of noxious weeds and grasses. Weed abatement includes, but is not limited to, berms, Bermuda grass, fence rows, grass, pasture, and ponding or levee banks.

4.0 Exemptions

- 4.1 The requirements of this rule shall not apply to:
 - 4.1.1 Open outdoor fires used solely for the purpose of cooking food for human consumption, campfires, and religious ceremonial fires, where the combustible material is clean, dry wood or charcoal.
 - 4.1.2 The prevention of an imminent fire hazard declared by a fire agency that cannot be abated by any other means.
 - 4.1.3 The setting of backfires necessary to save life, and/or in the defense of assets at risk pursuant to Section 4426 of the Public Resources Code.
 - 4.1.4 The burning, in a respectful and dignified manner, of an unserviceable American Flag that is no longer fit for display.

- 4.1.5 The burning of agricultural waste or crops pursuant to a lawful abatement order issued by the local county agricultural commissioner as described in Section 5403 and 5404 of the California Food and Agricultural Code.
- 4.2 The following activity is exempt from rule requirements, but may only be conducted pursuant to Air Pollution Control Officer (APCO) written authorization:
 - 4.2.1 A fire set by or authorized by any public officer authorized in the performance of his official duty to engage in fire protection activities provided that a burn plan, as described in Section 6.2.1, has been previously submitted to and approved by the APCO and such a fire is necessary for the instruction of employees in fire fighting methods.
- 4.3 The following activities are exempt from the no-burn day restrictions of Section 6.1.8, subject to APCO authorization and permit requirements. These activities are not exempt from the provisions of Sections 5.1 through 5.5:
 - 4.3.1 The burning of empty sacks which contained pesticides or other toxic substances, provided that the sacks are within the definition of agricultural burning in Section 3.1.3.
 - 4.3.2 The burning of paper raisin trays.
 - 4.3.3 Other agricultural burning, if the denial of such burning would threaten imminent and substantial economic loss, and which is conducted pursuant to the following provisions:
 - 4.3.3.1 The APCO may only authorize such burning when downwind metropolitan areas are forecast by the District to achieve the ambient air quality standards and/or a fire agency has not declared a no-burn day due to safety issues.
 - 4.3.3.2 The District shall limit the amount of acreage that can be burned on any one no-burn day in any one county to 200 acres.
 - 4.3.3.3 The granting of an exemption does not exempt the applicant from any other District or fire control regulations.
 - 4.3.3.4 Within fifteen (15) days of the granting of an exemption, the applicant shall return a signed application form that provides the reasons for requesting the exemption and shall pay the required District fee for said exemption.

- 4.3.4 The burning of contraband is exempt from the no-burn day restrictions of Section 6.1.8, but may only be conducted pursuant to APCO written authorization and the preparation of a burn plan as described in Section 6.2.2. Contraband burning is subject to the provisions of Section 5.7.

5.0 Requirements

- 5.1 Except as otherwise provided in this rule, no person shall set, permit, or use an open outdoor fire for the purpose of disposal or burning of petroleum wastes; demolition or construction debris; residential rubbish; garbage or vegetation; tires; tar; trees; woodwaste; or other combustible or flammable solid, liquid or gaseous waste; or for metal salvage or burning of motor vehicle bodies.
- 5.2 The APCO shall allocate burning based on the predicted meteorological conditions and whether the total tonnage to be emitted would allow the volume of smoke and other contaminants to cause a public nuisance, impact smoke sensitive areas, or create or contribute to an exceedance of an ambient air quality standard.
- 5.3 The APCO shall restrict the time of day when burns are ignited and conducted, as necessary.
- 5.4 No open burning shall be permitted that will create a nuisance as defined in Section 41700 of the California Health and Safety Code.
- 5.5 Agricultural Burning

The following conditions are in addition to those requirements specified in Sections 5.1 through 5.4:

- 5.5.1 No permit shall be issued for the burning of the following categories of agricultural waste, except for crops covered by Section 5.5.2:
 - 5.5.1.1 Field Crops,
 - 5.5.1.2 Prunings,
 - 5.5.1.3 Weed Abatement, except for categories covered by Section 5.5.3,
 - 5.5.1.4 Orchard Removals,
 - 5.5.1.5 Vineyard Removal Materials,
 - 5.5.1.6 Surface Harvested Prunings, and

- 5.5.1.7 Other Materials.
- 5.5.2 The District may postpone the prohibitions in Section 5.5.1 and may issue permits for the burning of any agricultural waste, if all of the following criteria are met:
 - 5.5.2.1 The Board determines that there is no economically feasible alternative means of eliminating the waste.
 - 5.5.2.2 The Board determines that there is no long-term federal or state funding commitment for the continued operation of biomass facilities in the San Joaquin Valley or development of alternatives to burning.
 - 5.5.2.3 The Board determines that the continued issuance of permits for that specific category or crop will not cause, or substantially contribute to, a violation of an applicable federal ambient air quality standard.
 - 5.5.2.4 The California Air Resources Board concurs with the Board's determinations pursuant to this section.
- 5.5.3 Owner/operators shall use at least one of the Best Management Practices for the control of other weeds and maintenance listed in Attachment 1, or other practices as approved by the APCO, for the control of star thistle, dodder weeds, tumble weeds, noxious weeds, and weeds located along ditch banks or canal banks, and the disposal of pesticide sacks or fertilizer sacks. The APCO shall not approve any alternative practice unless it is demonstrated that the alternative is at least as effective in controlling emissions as the listed practices.
- 5.5.4 Agricultural waste shall not be burned unless it is arranged or loosely stacked in such a manner as to promote drying and insure combustion with a minimum of smoke production.
- 5.5.5 Agricultural waste to be burned shall be ignited only with an approved ignition device.
- 5.5.6 Agricultural waste shall not be burned unless it is free of excessive dirt, soil, and visible surface moisture.

- 5.5.7 Agricultural waste does not include and shall not be burned unless it is free of such items as plastic, rubber, ornamental or landscape vegetation, shop wastes, construction and demolition material, garbage, oil filters, tires, tar paper, broken boxes, pallets, sweatboxes, packaging material, packing boxes or any other material produced in the packing or processing of agricultural products, and pesticide and fertilizer containers (except sacks burned in the field where they were emptied).
- 5.5.8 Orchard or vineyard removal waste, or any other material, generated as a result of land use conversion from agricultural to nonagricultural purposes shall not be burned.
- 5.5.9 Agricultural waste shall not be burned unless it has been allowed to dry for the following minimum time periods:

Rice Straw	See Section 5.5.14.4
Prunings and Small Branches	Three (3) Weeks
Large Branches	Six (6) Weeks

- 5.5.10 Agricultural burning shall be monitored and attended as necessary to prevent smoldering.
- 5.5.11 No agricultural waste shall be burned except during daylight hours.
- 5.5.12 No agricultural waste shall be added to an existing fire after 5:00 p.m.
- 5.5.13 All burning shall be ignited as rapidly as practicable within applicable fire control restrictions.
- 5.5.14 Field crop burning:

The requirements of Section 5.5.14 do not apply to vines and tree pruning burning.

- 5.5.14.1 No field crop burning shall commence before 10:00 a.m., or after 2:00 p.m., of any day, unless local conditions indicate that other hours are appropriate.

- 5.5.14.2 Rice, barley, oat, and wheat straw shall be ignited only by strip firing into-the-wind or by backfiring, except under a special permit issued by the District when and where extreme fire hazards are declared by the public fire protection agency to exist, or where crops are determined by the District not to lend themselves to these techniques.
- 5.5.14.3 All rice harvesting shall employ a mechanical straw spreader to ensure even distribution of the straw with the exception that rice straw may be left in rows, provided it meets drying time criteria, as specified in Section 5.5.14.4 prior to a burn. Rice straw may also be left standing, provided it is dried and meets the crackle test criteria described in Section 5.5.14.5.
- 5.5.14.4 After harvesting, no rice straw shall be burned prior to the following drying periods:
 - 5.5.14.4.1 Spread rice straw: three (3) days; or
 - 5.5.14.4.2 Rowed rice straw: ten (10) days.
 - 5.5.14.4.3 Sections 5.5.14.4.1 and 5.5.14.4.2 shall not apply if the rice straw makes an audible crackle when tested just prior to burning with the test method described in Section 5.5.14.5.
- 5.5.14.5 When checking the field for moisture, a composite sample of straw from under the mat, in the center of the mat, and from different areas of the field shall be taken to insure a representative sample. A handful of rice straw from each area will give a good indication. Rice straw is dry enough to burn if a handful of straw selected as described above crackles when it is bent sharply.
- 5.5.14.6 After a rain exceeding fifteen hundredths (0.15) inch, notwithstanding Section 5.5.14.3, rice straw shall not be burned unless the straw makes an audible crackle when tested just prior to burning with the test method described in Section 5.5.14.5.
- 5.5.14.7 The APCO may require additional conditions based on the condition of the materials to be burned.

5.6 Ditch Bank and Levee Maintenance

The following conditions are in addition to those requirements specified in Sections 5.1 through 5.4 for burning on-site grown vegetative material for right-of-way clearing, levee, and ditch bank maintenance by a public entity or utility:

- 5.6.1 Trash and debris must be removed prior to burning.
- 5.6.2 The material has been prepared by stacking, drying, or other methods to promote combustion as specified by the District.

5.7 Contraband Materials

The following conditions are in addition to those requirements specified in Sections 5.1 through 5.4 for the disposal of contraband materials by burning:

- 5.7.1 No contraband confiscated outside the District may be transported into the District for disposal by burning. Only contraband confiscated within the San Joaquin Valley Air Basin boundaries may be disposed of by burning.
- 5.7.2 Prior to the burn, a written notification of the planned burn must be submitted to the APCO pursuant to Section 6.2.2 of the rule.
- 5.7.3 Fires shall only be set or allowed by a peace officer or public fire official in the performance of official duty.
- 5.7.4 To the extent possible, materials must be burned in areas and in conditions limiting the possibility of smoke impacts on nearby neighbors and/or other smoke sensitive areas.

5.8 Russian Thistle (*Salsola Kali*) (tumbleweeds)

A District Permit is required for the burning of tumbleweeds. The Permit shall be issued in accordance with Sections 5.8.1, 5.8.2, and 6.1 and is only valid when the Permit applicant has received a burn authorization from the APCO that will allow burning on a particular day.

- 5.8.1 The burn site must be maintained in a fire safe condition according to the local fire protection agency.

5.8.2 The smoke and air contaminants shall not impact smoke sensitive areas, cause or contribute to a nuisance pursuant to Rule 4102 (Nuisance), or create or contribute to an exceedance of an ambient air quality standard. The APCO reserves the right to deny a Permit request if it might create a nuisance.

5.9 Diseased Materials

A conditional burning permit is required for fires set for the purpose of disease or pest prevention. A conditional burning permit shall authorize the burning of only the identified diseased crop, animal, fowl, pest or infected material.

5.9.1 A conditional burning permit will be issued by the APCO, if all of the following criteria are met:

5.9.1.1 The material to be burned is specifically described in the conditional burning permit.

5.9.1.2 The applicant has not been cited for a violation of burning rules or regulations in the past 3 years, unless the violation was of a de minimis nature, as determined by the APCO and the county agricultural commissioner, and

5.9.1.3 The county agricultural commissioner has determined all of the following:

5.9.1.3.1 There is no economically feasible alternative means of eliminating the disease or pest other than burning, and

5.9.1.3.2 There is the presence of a disease or pest that will cause a substantial, quantifiable reduction in yield or poses a threat to the health of adjacent vines, trees, or plants in the field proposed to be burned, during the current or next growing season, or there is the presence of a disease or pest that will cause a substantial, quantifiable reduction in production of animals or fowl.

5.9.2 The holder of a conditional burning permit may not transfer, sell or trade the burning permit to any other individual.

6.0 Administrative Requirements

6.1 Open Burn Permits

- 6.1.1 No person shall knowingly set or permit open burning unless the person has a valid Permit issued by the APCO and/or the designated agency having jurisdiction in the area where the open burning will take place.
- 6.1.2 A Permit applicant shall provide information as requested by the APCO and or designated agency. No Permit or authorization shall be deemed valid unless the applicant has provided the required information.
- 6.1.3 A Permit shall be valid only on the lands specified on the Permit.
- 6.1.4 No material shall be burned unless it is clearly described and quantified as material to be burned on a valid Permit.
- 6.1.5 Applications to burn orchard or vineyard removal waste must be reviewed and shall not be granted if the materials were generated in the process of land use conversion to nonagricultural purposes.
- 6.1.6 No burning shall be conducted pursuant to such a Permit without prior authorization for burning on a specified day from the District.
- 6.1.7 No burning shall be conducted contrary to the conditions specified on the Permit.
- 6.1.8 Except for burning conducted pursuant to Section 4.3, a permit shall only be valid on those days not designated as no-burn days and the APCO has authorized the burning as being within a particular day's burn system allocation for the region in which burn site is located.
- 6.1.9 Any Permit issued by a designated agency shall be subject to the rules and regulations of the District.

6.2 Burn Plans for Fire

6.2.1 Fire Suppression Training

The lead fire agency planning to conduct fire suppression training must submit a burn plan to the APCO for approval a minimum of 15 days prior to the date of the proposed burn. A burn plan is not required for training conducted at stationary fire training structures located at fire training facilities when used for the primary purpose of conducting fire training. The burn plan shall address the following:

- 6.2.1.1 The location of the fire training.
- 6.2.1.2 The fire agencies involved with the training, the number of personnel participating with the training, the name(s) and title(s) of personnel who are responsible for the training, and the approximate date the training will occur, including expected burn starting and ending times.
- 6.2.1.3 If a structure is involved with the fire training, the burn plan shall include an assessment for the presence and removal of asbestos containing materials within the structure(s), subject to the requirements of Rule 4002 and the National Emission Standards for Hazardous Air Pollutants (Subpart M, Part 61, Chapter 1, Title 40, Code of Federal Regulations).
- 6.2.1.4 Proposed contingencies to prevent a nuisance, per Rule 4102 (Nuisance).

6.2.2 Contraband

Pursuant to the requirements of Section 5.7, a written notification from the law enforcement agency or fire agency conducting the burn shall be submitted to the APCO for approval a minimum of 15 days prior to the planned burn. In special circumstances, the APCO may waive the 15-day notice requirement. The notification shall provide the following information:

- 6.2.2.1 A description of the contraband, including its origin and the amount of material that will be destroyed by fire.
- 6.2.2.2 The date and location of the burn.
- 6.2.2.3 A description of alternative disposal methods other than burning and an explanation of why the contraband must be destroyed by the use of fire.

6.2.2.4 The law enforcement agency and/or fire protection agency involved with the burn.

6.3 The APCO shall prepare the “Staff Report and Recommendations on Agricultural Burning” document (Report) for any Board determination made pursuant to Section 5.5.2 and in accordance with the following:

6.3.1 The Report shall be presented to the Board for review and approval. Board-approved Report shall be submitted to ARB and EPA for inclusion into the State Implementation Plan.

6.3.2 The APCO shall review and update, as appropriate, the Report at least once every five (5) years. Updated Reports shall be approved according to Section 6.3.1.

**ATTACHMENT 1
BEST MANAGEMENT PRACTICES
FOR THE CONTROL OF OTHER WEEDS AND MAINTENANCE**

Star Thistle, Dodder Weeds, Tumbleweeds, Noxious Weeds and
Other Weeds Affecting Surface Waterways

1. Use a planting-to-moisture technique that destroys weeds by cultivation then allow the soil to partially dry and plant large seeded crops in the moist soil below the dried soil zone.
2. Use of a buried drip irrigation system to minimize moisture that is available to weed seeds germinating at the surface level.
3. Reduce the amount of weeds that produce seed by performing regular weed control during the growing and off-season.
4. Use corn gluten as a pre-emergence material to suppress weeds as they germinate.
5. Apply conventional chemical herbicides or non-conventional herbicides such as Citric Acid, Vinegar, or Sodium Nitrate.
6. The use of an anaerobic manure digester to reduce weed seeds in composted materials.
7. Apply hot foam to kill weeds with the heat released from the foam, and allow the foam to dissipate after it has been applied.
8. Select crops that out-compete weeds for moisture and soil nutrients.
9. Apply mulching material around crops to block sunlight, which prevents weed germination and growth.
10. Use of animals or fowls to eat weeds. This technique is most effective in range or non-crop areas.
11. Soil solarization covering utilizes plastic sheeting placed on beds during the summer to trap solar energy generating heat that destroys the emerging weeds.
12. Apply a flame to wilt (desiccate) and or remove the desiccated vegetation (sanitation). The application of the flame is limited such that removal of the flame does not result in continued ignition of the vegetation.
13. Mechanically remove weeds by disking and tilling. The mechanical removal up-roots or buries the weeds.
14. Open burning in accordance with the requirements of Rule 4103 (Open Burning)

Other Maintenance (Pesticide Sacks, Fertilizers Sacks)

15. Dispose of the pesticide/fertilizer sacks into a landfill.
16. Purchase pesticide/fertilizer sold in returnable, refillable bulk bags.
17. Open burning in accordance with the requirements of Rule 4103 (Open Burning)