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## Crop Pest, Weed, and Disease Management Guidance for Growers

Section 205.206 of the USDA's regulations for organic production and handling (7 *CFR Part 205, the National Organic Program; Final Rule*) outlines the requirements for crop pest, weed, and disease control for certified organic production.

# § 205.206 Crop pest, weed, and disease management practice standard.

(a) The producer must use management practices to prevent crop pests, weeds, and diseases including but not limited to:

(1) Crop rotation and soil and crop nutrient management practices, as provided for in §§205.203 and 205.205;

(2) Sanitation measures to remove disease vectors, weed seeds, and habitat for pest organisms; and

(3) Cultural practices that enhance crop health, regard to suitability to site-specific conditions and resistance to prevalent pests, weeds, and diseases.

(b) Pest problems may be controlled through mechanical or physical methods including but not limited to:

(1) Augmentation or introduction of predators or parasites of the pest species;

(2) Development of habitat for natural enemies of pests;

(3) Nonsynthetic controls such as lures, traps, and repellents.

(c) Weed problems may be controlled through:

(1) Mulching with fully biodegradable materials;

- (2) Mowing;
- (3) Livestock grazing;
- (4) Hand weeding and mechanical cultivation;
- (5) Flame, heat, or electrical means; or
- (6) Plastic or other synthetic mulches: *Provided,*
- That, they are removed from the field at the end of the growing or harvest season.
- (d) Disease problems may be controlled through:
  - (1) Management practices which suppress the spread of disease organisms; or
     (2) Application of nonsynthetic biological, botanical, or mineral inputs.

(e) When the practices provided for in paragraphs (a) through (d) of this section are insufficient to prevent or control crop pests, weeds, and diseases, a biological or botanical substance or a substance included on the National List of synthetic substances allowed for use in organic crop production may be applied to prevent, suppress, or control pests, weeds, or diseases: *Provided*, That, the conditions for using the substance are documented in the organic system plan.
(f) The producer must not use lumber treated with arsenate or other prohibited materials for new installations or replacement purposes in contact with soil or livestock.

Like other sections of the Rule, this section forms a "hierarchy". Part (a) lets producers know that management practices MUST be used to control pests and disease, to include sanitation, crop rotation, and site-specific cultural practices. Parts (b), (c), and (d) give specific mechanical and physical methods that MAY be used for the control of pests, weeds, and disease problems, respectively. It is not until part (e) where the regulations allow for the use of compliant materials / "*materials consistent with the national list*" to control pest, weed, and disease problems. Part f) of this section relates the prohibition for lumber treated with prohibited materials. A producer's "organic farm plan" must outline the methods to be used for pest, weed, and disease control, and must also contain a listing of any and all materials to be used for organic production.

Determining which materials are compliant with the regulations is very challenging, and material reviews must be well documented. Often, additional information far beyond what is found on a product label or in a spec sheet will be required for a proper compliance review. All clients who wish to obtain organic certification through the NJDA are strongly encouraged to read the <u>NJDA Materials Guidance for Producers</u>. Certified clients are strongly encouraged to be sure a material has been approved for use PRIOR to application.

### Part (a), Management Techniques

The management techniques required for producers seeking certification include crop rotation and nutrient management, sanitation measures, and cultural practices such as proper varietal selection. All organic growers must provide for these techniques in one way or another. The organic farm plan must outline these management techniques. The NJDA organic certification forms are designed in way to make disclosure of techniques easier. When completing the forms, please indicate only those techniques which are in practice, or are likely to be put into practice in the current growing season. Updates and changes are given by the producer in annual update paperwork (be sure to verify all materials <u>prior</u> to use).

In addition to having specific techniques listed in the plan, producers often have to keep records or logs showing techniques are being implemented. A description of the crop rotation plan to be used through the seasons must be in the plan. Exact records of where crops / crop families are planted each season must be kept by the client, and are often reviewed during the annual update inspection. Sanitation measures can include the cleaning of off-farm or borrowed equipment prior to entry into organic production areas. If a producer's cleaning methods are approved, each time the cleaning is performed a log or record must be kept indicating the cleaning was done. This can be notations in a field log book, or on a calendar, or other convenient method of recording the cleaning. Records must be available for inspector review.

#### Part (b), Pest Problems

For pest problems the Rule lists three physical methods for pest control (and *does not preclude other methods*). Augmentation or introduction of predators or parasites of the pest species is often termed "use of beneficials". Development of habitat for natural enemies can occur within a production area, along the borders of a production area, or in other areas of the farm. Nonsynthetic lures and repellents, and the use of traps is allowed, but it important to remember this allowance is for nonsynthetic materials. Synthetic materials can not be used within organic production areas if they are not consistent with the "National List".

#### Part (c), Weed Control

Weed control measures that can be used by organic producers include mulching with fully biodegradable materials (materials must be natural), mowing, livestock grazing, hand weeding and mechanical cultivation, flame, heat, or electrical means, or use of synthetic mulches that are removed after the growing or harvest season. Livestock must not graze organic production areas growing crops for human consumption less than 120 days prior to the harvest of most crops (90 days for a limited number of crops who's edible portions are not exposed to soil splash).

#### Part (d), Disease Problems

The Rule does not list as many possible methods for disease problems as it does for weeds and pests. The language is broad and includes "management practices which suppress the spread of disease organisms" and "application of nonsynthetic biological, botanical, or mineral inputs" (natural materials).

#### Part (e) and the National List

Part (e) of §205.206 allows for the use of materials provided for in the *National List* "when the practices provided for in paragraphs (a) through (d)... are insufficient...". The National List is a term used to describe Rule sections 205.600 through 205.607. Section 205.601 lists the synthetic materials that can be used for organic crop production. This section is broken down into categories by use and/or function. Part a) lists materials that can be used as algicides, disinfectants, and sanitizers. Part b) lists materials that can be used as herbicides. Each part lists the use the material is compliant for. Growers must be careful not to use allowed synthetic materials for a non-listed use. As an example, hydrated lime can be used to suppress disease as per §205.601(3). If hydrated lime was used as a soil amendment, the producer would receive a Notice of Noncompliance.

There are parts of the national list section for crops that are specific to pest, weed, and disease control. Allowed synthetic herbicides and weed barriers are allowed per §205.601(b). Synthetic materials approved as insecticides can be found in the national list §205.601(e). Inerts used in pesticide formulations approved for organic production are restricted by §205.205.601(m). Synthetic plant disease controls are listed in §205.601(i).

When looking at materials listed in the national list it is very important to note any and all restrictions placed on the material and/or its use. As an example, newspaper and other recycled paper is allowed as a mulch for weed control as per 205.601(b)(2)(ii), but restricted to paper without glossy or colored inks. Plastic mulches can be used, but must not be made with PVC (polyvinyl chloride). In addition, plastic or synthetic mulches must be removed after the growing or harvest season as required in 205.206.206(c)(6)).