

When Is Plant Food a Pesticide Pesticide Claims and Plant Nutrition

Association of American Plant Food Control Officials

Annual Meeting

August 14-17, 2013

St. Pete Beach, FL

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Reminder

This presentation provides information about the law. Such information is not the same as legal advice. Legal advice involves application of the law to a person's specific circumstance. This presentation is not intended to provide legal advice.

Plant Nutrition

The chemical elements and compounds that are necessary for plant growth, and also of their external supply and internal metabolism.

-Wikipedia

Pesticide

A chemical or biological agent (such as a virus, bacterium, antimicrobial or disinfectant) that through its effect deters, incapacitates, kills or otherwise discourages pests.

-Wikipedia

What is a Pest?

EPA. Pests are living organisms that occur where they are not wanted or that cause damage to crops or humans or other animals. Examples include:

- Insects,
- Mice and other animals,
- Unwanted plants (weeds),
- Fungi,
- Microorganisms such as bacteria and viruses

Federal Insecticide, Fungicide, and Rodenticide Act

PESTICIDE. Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.

Federal Insecticide, Fungicide, and Rodenticide Act

(PESTICIDE.—The term “pesticide” means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, and (3) any nitrogen stabilizer, except that the term “pesticide” shall not include any article that is a “new animal drug” within the meaning of section 201(w) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321(w)), that has been determined by the Secretary of Health and Human Services not to be a new animal drug by a regulation establishing conditions of use for the article, or that is an animal feed within the meaning of section 201(x) of such Act (21 U.S.C. 321x)) bearing or containing a new animal drug. The term “pesticide” does not include liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on such products) for use on a critical or semi-critical device, as defined in section 201 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321).

Federal Insecticide, Fungicide, and Rodenticide Act

The term “pesticide” means . . . (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant . . .

Plant Regulator (FIFRA)

The term “plant regulator” means any substance or mixture of substances intended, through physiological action, for accelerating or retarding the rate of growth or rate of maturation, or for otherwise altering the behavior of plants or the produce thereof, but shall not include substances to the extent that they are intended as plant nutrients, trace elements, nutritional chemicals, plant inoculants, and soil amendments.

Plant Regulator (FIFRA)

Any substance . . . intended, through physiological action, for accelerating or retarding the rate of growth or rate of maturation.

Plant Nutrient (FIFRA)

Plant nutrient products consisting of one or more macronutrients or micronutrient trace elements necessary to normal growth of plants and in a form readily useable by plants. *40 CFR 152.6(g)(1)*.

Nutritional Chemical

Undefined

*Products intended to aid the
growth of desirable plants*

A plant inoculant product consisting of microorganisms to be applied to the plant or soil for the purpose of enhancing the availability or uptake of plant nutrients through the root system. *40 CFR 152.6(g)(2).*

Plant Growth Regulators (PGRs)

- **Antiauxins**
- **Auxins**
- **Cytokinins**
- **Defoliants**
- **Ethylene inhibitors**
- **Ethylene releasers**
- **Gametocides**
- **Gibberellins**
- **Growth inhibitors**
- **Growth retardants**
- **Growth stimulators**

-Compendium of Pesticide Common Names

Natural Growth Hormones (PGR)

- Auxins
- Cytokinins
- Gibberellins

Auxins

Indolebutyric acid

EPA Pesticide Reregistration Eligibility Decision:

- The Agency has waived all data requirements on the active ingredient because of the expected, extremely low exposures to those involved in the use of products containing IBA.
- The average human excretes 7mg IAA in urine daily.

Cytokinin

EPA Pesticide Reregistration Eligibility Decision:

- No adverse effects to humans are expected from use of these substances to enhance growth and maturation of crops.
- No risks to the environment are expected from use of cytokinin
 - consumed by the many aquatic organisms that eat algae and seaweed
 - used as a dietary supplement in animal feed

Gibberellin

EPA Pesticide Reregistration Eligibility Decision:

- No adverse effects to humans are expected from use of gibberellins to enhance growth and maturation of crops.
- The substances are found naturally in plants.
- The tiny amounts applied to crops do not noticeably increase exposure of humans who eat the treated crops.

EPA Identification of Plant Growth Regulators

- Factors
 - Plant Response
 - Mode of Action
 - Ingredients

Biostimulant (PGR)

“A biostimulant is an organic material, that, when applied in small quantities, enhances plant growth and development such that the response cannot be attributed to application of traditional plant nutrients.”

-Virginia Cooperative Extension

Biostimulant Effects

- Stimulate cell division
- Increase root mass
- Stimulate leaf enlargement
- Stimulate germination
- Induce flowering and fruit set

Plant Nutrition Effects

- Promote germination (Zn)
- Promote root growth (K)
- Stimulate meristematic growth (K)
- Promote cell wall formation (Ca)
- Increase leaf size and quality (N)
- Promote fruit and seed development (N)

Intent

Is product *intended* to be used as a pesticide?

- Factors
 - label
 - advertising
 - composition
 - use
 - mode of action

Intent

Claims

- If a person distributing a product makes claims or implies that it is a pesticide by labeling or otherwise, then it is considered a pesticide.

Intent

Knowledge

- If the manufacturer has knowledge that the substance will be used, or is intended to be used for a pesticidal purpose, the product is a pesticide and will require registration.

Intent

Composition

- Products that have an active ingredient with no other significant commercial value other than pesticidal purposes have been historically considered pesticides.

Ingredients Demonstrate Intent

Pesticide Labeling Manual

- Compounds such as auxins, cytokinins, and gibberellins have no other uses except as plant growth regulators.
- The presence of any of those compounds generally causes a product to be considered a plant growth regulator.

Seaweed

Plant Nutrition or Plant Growth Regulator??

Seaweed as a ??

Fertilizer:

Acadian Marine Plant Extract Powder

0.5-0-17

Plant Growth Regulator

Acadian Stimplex (EPA Reg. *67016-3*)

Cytokinin 0.06%

Seaweed as a Biostimulant

Stress X

- Natural growth hormones

Alg-A-Mic

- Organic bio-stimulant

Seaweed with Cytokinin

- Algamin Kelp
- LSO Seaweed
- Pure Ocean Seaweed
- SoluKelp
- SuperNova
- Zone Foliar Biological

EPA Enforcement

EPA Announces Settlement of Three Pesticides Enforcement Actions (9/13/12)

FIFRA defines plant growth regulators as substances intended to accelerate or retard the growth of plants. Among other things, substances considered to be plant regulators may include hormone additives intended to stimulate plant root growth or fruiting, such as gibberellins, auxins, and cytokinins derived from seaweed. Products containing these additives are often marketed as fertilizers, but such claims do not exempt products from regulation as pesticides.

The Cases

- Mayberry Seed
 - Distributor
 - \$17,160 penalty
- Southeast Cooperative Service
 - Distributor
 - \$12,000 penalty
- AgXplore International
 - Manufacturer
 - \$237,573 penalty

AgXplore

Natural Plant Growth Stimulants

- Stimulates root growth and development
- Promotes natural growth and fruiting processes
- Promotes fruit size and retention
- Provides earlier maturity

Recommendations

- Pesticide Registration
- Minimum Risk Exemption Petition
- Relabeling

Minimum Risk Exemption

FIFRA authorizes exemption from FIFRA requirements for pesticides “which the Administrator determines . . . to be of a character which is unnecessary to be subject to this Act in order to carry out the purposes of this Act.” (FIFRA §25(b)).

Minimum Risk Exemption

EPA Considers

- Is it widely available to the general public for other uses?
- Is it a common food or constituent of a common food?
- Is its mode of action nontoxic?
- Is it recognized by the FDA as safe?
- Can the scientific literature show no significant adverse effects?
- Will use result in significant exposure?
- Will it persistent in the environment?

Relabeling

Seaweed Nutrients

- N
- K
- Ca
- Fe
- Mg
- S

Relabeling

What can primary and secondary nutrients do?

- Mg. Activates enzymes required in growth processes.

Relabeling Limitations

Prohibited ingredients and claims

- No plant hormones
 - Auxins
 - Cytokinin
 - Gibberellin
- No plant growth regulators
- No biostimulants

Questions??

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