

Specifically Regulated Pesticides in Florida -- Bromacil¹

Frederick M. Fishel²

Certain individual pesticides or groups of pesticides have specific regulations that pertain to them. The Florida Department of Agriculture and Consumer Services (FDACS) is the agency responsible for determining these regulations under Chapter 5E-2, Florida Administrative Code – “Pesticides.” This guide will explain special regulations governing the use of bromacil in Florida.

Bromacil is a member of the uracil family of herbicides, which were introduced by E.I. du Pont de Nemours and Company in 1963. It is federally classified as a “general use” pesticide, and in Florida is marketed under many trade names. Its labeled use sites include citrus, pineapple, and industrial areas, such as tank farms, rights-of-way, parking areas and other sites where long-term vegetation control is desirable. Weeds controlled include annual and perennial grasses, broadleaf weeds, and woody plants. Formulations containing additional active ingredients for expanding the weed control spectrum are desirable in such areas.

The mechanism of action for bromacil and other uracil herbicides is to target the Hill Reaction and interrupt electron transport in photosynthesis. It is

soluble in water and is readily absorbed into the roots and is transported to the leaves of plants. There are indications that bromacil can be highly mobile in certain soil types, such as those with relatively high sand content and little organic matter, and its detection in groundwater demonstrates that leaching can occur. Soil half-lives range from 2 to 8 months depending upon use patterns and environmental factors.

Several products containing bromacil carry approved agricultural use sites, including citrus, on their labels (Table 1) and these products have raised environmental and regulatory concerns because of the previously mentioned factors and their use patterns.

The products approved for use on citrus sites have become regulated by FDACS and their use is prohibited for weed control in non-bedded citrus groves located on any permeable, better-drained soil identified on the application site. Permeable, better-drained soils which occur in citrus producing areas of the state unnamed and characteristic of quartzipsamments, and the following soil series classifications:

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2. Frederick M. Fishel, Associate Professor, Agronomy Department, and Director, Pesticide Information Office; Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

The use of trade names in this publication is solely for the purpose of providing specific information. UF/IFAS does not guarantee or warranty the products named, and references to them in this publication does not signify our approval to the exclusion of other products of suitable composition. Use pesticides safely. Read and follow directions on the manufacturer's label.

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Adamsville	Archbold	Astatula
Bahiahonda	Broward	Canaveral
Candler	Cocoa	Dade
Florahome	Fort Meade	Gainesville
Lake	Lakewood	Neilhurst
Orlando	Orsino	Palm Beach
Paola	Satellite	St. Augustine
St. Lucie	Tavares	

Specific information is available for soils present in each of Florida's counties at:

<http://edis.ifas.ufl.edu/>

TOPIC_Soil_and_Water_by_County.

The use or application of bromacil by any person in a manner inconsistent with the provisions of this rule is a violation of Chapter 487, Florida Statutes, and such person shall be subject to the penalty provisions of Section 487.175, Florida Statutes.

Definitions pertaining to bromacil under Chapter 5E-2, Florida Administrative Code – “Pesticides.”

Available water capacity – the ability of the soil to hold water available for use by most plants and commonly expressed as inches of water per inch of soil.

Bedrock – the solid rock that underlies the soil and other consolidated material or that is exposed at the surface.

Drainage class – refers to the frequency and duration of periods of saturation or partial saturation during soil formation.

Poorly drained – that soil drainage class where water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods.

Horizon – a layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil forming processes.

Permeability – the quality of the soil that enables water to move through the soil and is measured as the number of inches per hour that water moves through the saturated soil.

Permeable, better-drained soils – those soils that are in a drainage class where water is removed more rapidly than in poorly drained soils, and have a permeability of six inches per hour or more, and an available water capacity of 0.10 inch per inch of soil or less, in all horizons to a depth of 80 inches or to bedrock, if bedrock is within 80 inches of the surface.

There are additional label statements on certain products registered for non-agricultural use sites regarding those applications specifically in the state of Florida. Some of those products' labels state that bromacil use is prohibited in the counties of Hardee, Highlands, Polk, Orange, and Lake. As with any pesticide, be sure to check the product's specific label site restrictions and read and follow all label directions; **the label is the law.**

Additional Information

Brown, R.B. 2003. Soil texture. UF/IFAS EDIS Document SL-29. <http://edis.ifas.ufl.edu/SS169>.

Collins, M.E. 2003. Key to soil orders in Florida. UF/IFAS EDIS Document SL-43. <http://edis.ifas.ufl.edu/SS113>.

Table 1. Bromacil active ingredients, products by approval for agricultural use.

Active ingredient	Trade name	Agricultural Use	Chemical name
Bromacil	Hyvar® X, Krovar® I DF*	Yes	5-bromo-3-sec-butyl-6-methyluracil
Lithium salt of bromacil	Hyvar® X-L, many others	No	
* Prepackaged with diuron.			