

Specifically Regulated Pesticides in Florida—Bromacil¹

Frederick M. Fishel²

Certain individual 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 disrupt photosynthesis and prevent plants from making the food they need to survive. It is soluble in water, 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.

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.

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. The following soil series are considered freely draining, unconsolidated sand deposits on which bromacil use is prohibited:

- Adamsville
- Archbold
- Astatula
- Bahiahonda
- Broward
- Canaveral
- Candler
- Cocoa

1. This document is PI112, one of a series of the Agronomy Department, UF/IFAS Extension. Original publication date October 2005. Revised October 2015 and May 2018. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. Frederick M. Fishel, professor, Agronomy Department; UF/IFAS Extension, Gainesville, FL 32611.

- 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 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—the 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—soils that are in a drainage class where water is removed more rapidly than in poorly drained soils, 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.