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State of Hawai'i  
Department of Agriculture  
Plant Industry Division  
Pesticide Branch

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**TO:** Advisory Committee on Pesticides

**FROM:** Greg Takeshima  
Pesticides Program Manager

**SUBJECT:** Proposed Amendment to List of State Restricted Use Pesticides to Clarify Active Ingredient Use Restrictions; Penflufen, Quinclorac, Thiamethoxam, and Flupyradifuron

**PROCEDURAL BACKGROUND:**

The Hawaii Department of Agriculture, Board of Agriculture, has designated several pesticide and/or pesticides uses as restricted use pesticides (RUPs) which was listed in the Hawaii Administrative Rules, but amended in 2019 to be maintained externally. The restriction status was given to these pesticides due to their risk or potential risk to human health or the environment.

The Pesticides Branch wants to qualify the classification of certain restricted use pesticides. This would not affect products that are federally restricted. Active ingredients that were restricted due to groundwater concerns only would be state restricted for outdoor use only, excluding use in bait stations. The Branch expects low possibility for groundwater contamination for applications made indoors. The following active ingredients would be qualified as restricted for outdoor use only, excluding use in bait stations or other protective devices to shield the chemical from the environment: alachlor, amicarbazone, atrazine, bromacil, chlorantraniliprole, cyanazine, cyantraniliprole, fludioxonil, hexazinone, metolachlor and its isomers, and simazine. The following active ingredients are currently undergoing the process of being added to the list of restricted use pesticides and would also be affected by the qualifying restriction to outdoor use only: penflufen, quinclorac, thiamethoxam, and flupyradifurone.

Restricted pesticide use dealers and dealer representatives are required to record sales of restricted use pesticides. Pesticides that are labeled as state restricted use may not have the "Restricted Use" box on the container market label, but are still subject to all the requirements of



a restricted use pesticide. Restricted use pesticides that have both indoor and outdoor uses on the label will be recorded as state restricted use pesticides.

**ACTIVE INGREDIENT BACKGROUND:**

Alachlor is a systemic herbicide that is federally registered for use on corn, soybeans, sorghum, peanuts, and beans. Application methods consist of soil treatment and chemigation.

Amicarbazone is an herbicide that is federally registered for use on corn, turf, and conifers in nurseries and field plantings. Application methods consist of foliar spray and soil treatment.

Atrazine is a systemic herbicide that is federally registered for use on conifers, turf, rights-of-ways, schools, parks, industrial areas, corn, sugarcane, guava, nut trees, fruit trees, wheat, sorghum, pineapple, and rangelands. Application methods consist of foliar spray, soil treatment, and chemigation.

Bromacil is an herbicide that is federally registered for use on rights-of-ways, industrial sites, structures, cotton, citrus, turf, nonbearing fruit and nut trees, and pineapple. Application methods consist of foliar and soil treatment.

Chlorantraniliprole is a systemic insecticide that is federally registered for use on publicly landscaped areas, buildings, ornamental plants, cucurbits, citrus, corn, broccoli, lettuce, mustard, peppers, tomatoes, grapes, cassava, potatoes, cotton, and many other crops. Additionally, it is federally registered as a seed treatment for beans, corn, peas, oats, rice, sorghum, and wheat. Application methods consist of foliar spray, soil treatment, injections, and chemigation.

Cyanazine is an herbicide that is federally registered for use on corn, wheat, sorghum, cotton, fallow land, conifers, turf, and ornamentals. Application methods consist of foliar and soil treatment and chemigation.

Cyantraniliprole is a systemic insecticide that is federally registered for use on corn, potatoes, rapeseed, rice, sesame, soybeans, fruiting vegetables, cucurbits, ornamentals, fruit trees, peppers, watermelon, and other crops. Structural applications are listed such as in airports, schools, hotels, vehicles, hospitals, and more. Additionally, it is federally registered as a seed treatment for soybeans, mustards, rapeseeds, safflower, corn, potato, flax, rice, sunflowers. Application methods consist of baits, foliar spray, soil treatment, and chemigation.

Fludioxonil is a contact fungicide that is federally registered for use on turf, aquatic areas, avocados, herbs, bushberries, broccoli, tubers, citrus, cucurbits, lettuce, peppers, and other crops. Additionally, it is federally registered as a seed treatment for beans, lentils, peas, potatoes, cotton, corn, and peanuts and postharvest application of certain crops such as citrus, cassava, and tomatoes. Application methods consist of foliar spray, soil treatments, and chemigation.

Hexazinone is a systemic herbicide that is federally registered for use on rights-of-ways, airports, industrial sites, forest lands, conifers, turf, pastures, drainage ditches, sugarcane, alfalfa, pineapple, and blueberries. Application methods consist of foliar spray, soil treatments, injections, and chemigation.

Metolachlor and its isomers are systemic herbicides that are federally registered for use on tomatoes, soybeans, sugarcane, corn, beans, peas, sunflowers, cotton, fallow land, roadsides, ornamentals, turf, and more. Additionally, it is federally registered as a seed treatment for spruce, soybeans, sorghum, cotton, corn, and guar. Application methods consist of foliar spray, soil treatments, and chemigation.

Picloram is a systemic herbicide that is federally registered for use on ditches, pastures, conservation land, fallow land, airports, rights-of-ways, industrial sites, ornamentals, vacant lots, and other non-crop areas. Application methods consist of injection, foliar and soil treatments.

Simazine is a systemic herbicide that is federally registered for use on citrus, asparagus, bushberries, fruit trees, nut trees, corn, grapes, alfalfa, avocados, conifers, turf, buildings, airports, rights-of-ways, ponds, ditches, and swimming pools. Application methods consist of bait stations, foliar and soil treatments.

Penflufen is a systemic fungicide that is federally registered for use on artichoke, chayote, cassava, ginger, sweet potato, and yams. Additionally, it is federally registered as a seed treatment for beans, chives, corn, cotton, garlic, onion peas, rice, potatoes, and other crops. Application methods consist of soil treatments.

Quinclorac is a systemic herbicide that is federally registered for use on ornamental turf, conservation land, pastures, rice, sorghum, bushberries, institutional premises, rights of ways, and airports. Application methods consist of foliar spray, soil treatment, and chemigation

Thiamethoxam is a neonicotinoid insecticide that is federally registered for use on brassica, cucurbits, ginger, bushberries, citrus, peppers, tomatoes, watermelon, nuts, soybeans, stone fruits, tuberous vegetables, corn, ornamentals, turf, structures, and more. Additionally, it is federally registered as a seed treatment for beans, onions, greens, corn, cucurbits, rapeseed, and other crops. Application methods consist of crack and crevice sprays, bait stations, foliar spray, and soil treatment.

Flupyradifurone is a systemic insecticide that is federally registered for use on a variety of crops such as brassica, cucurbit, coffee, fruiting, leafy, bulb, tuberous and corm vegetables, citrus, pome and stone fruit trees, tree nuts, eggplants, peppers, taro, tomato, corn, bushberries, and ornamentals. It is also federally registered for use as seed treatment on rapeseed/canola and soybean seeds. Application methods consist of foliar spray, soil drench, and chemigation.

**AUTHORITY:**

Pursuant to section 149A-19(a), *Hawai'i Revised Statutes* ("HRS"), the board...shall adopt rules to: (1) Determine the pesticides that are highly toxic to humans, designate pesticides as restricted

use or non-restricted use, and establish a system of control over the distribution and use of certain pesticides and devices purchased by the consuming public...” The Hawaii Administrative Rules Section 4-66-32 outlines the procedures to designate a pesticide or its use as restricted use if its uses can be reasonably be anticipated to result in groundwater contamination.

Pursuant to 149A-17, HRS, “...every person who sells or distributes restricted use pesticides shall obtain an annual permit from the department...All persons permitted to sell restricted use pesticides shall keep records of the individual sales of these pesticides.”

**RECOMMENDATION:**

To date, there are sixteen active ingredients listed as state restricted use products with four pending the Board of Agriculture’s decision to be added to the list of state RUPs. Eleven of those active ingredients and all four pending active ingredients were labeled as RUPs due to groundwater contamination concerns.

Based on the low possibility of groundwater contamination if applied indoors, it is recommended that the qualification “state restricted for outdoor use only, excluding use in bait stations” be added to the affected active ingredients that are on the State Department’s list of state restricted pesticides referenced in section 4-66-32(g), Hawaii administrative Rules (HAR).

It is respectfully requested that the Advisory Committee recommend the clarification of the listed active and pending ingredients to the Board of Agriculture as set forth above.

**ATTACHMENTS:**

Attachment A: List of State Restricted Use Pesticides that are licensed in the State