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SHAUGHNESSY NO.

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REVIEW NO.

EEB REVIEW

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PETITION OR EXP. PERMIT NO.

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TYPE PRODUCT(S): I, D, H, F, N, R, S Herbicide

DATA ACCESSION NO(S). 262110

PRODUCT MANAGER NO. R. Taylor (25)

PRODUCT NAME(S) Escort (Metsulfuron methyl)

COMPANY NAME E.I. du Pont de Nemours & Company, Inc.

SUBMISSION PURPOSE Proposed EUP for use on rangeland and pasture grass

SHAUGHNESSY NO.	CHEMICAL & FORMULATION	% AI

EEB REVIEW

Metsulfuron Methyl 122001

100.0 Submission Purpose and Label Information

100.1 Submission Purpose and Pesticide Use

Proposed Experimental Use Permit (EUP) for Escort® to control broom snakeweed on rangeland and pastures.

100.2 Formulation Information

Active Ingredient:
Methyl 2-[[[[(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-amino]carbonyl]amino]sulfonyl]benzoate . . 60%
Inert Ingredients: 40%

100.3 Application Methods, Directions, Rates

DIRECTIONS FOR TRIAL USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Escort® should be used only in accordance with recommendations on this label or in separate published Du Pont recommendations available through local dealers.

Du Pont will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Du Pont.

Escort® Herbicide should be applied during the period of October through April to take advantage of the usually good moisture conditions of this period. However, applications may be made at any time from spring through fall provided the ground is not frozen. Escort® is a dry, flowable granule to be applied in a diluted broadcast spray at a rate of 0.3-1.6 ounces of product per acre. Evaluate the lower use rates for light infestations and where extended control of broom snakeweed is not a consideration. Evaluate the higher use rates for heavy infestations or where extended control of broom snakeweed is desired. Escort® should be mixed in water and can be applied by air or ground. When using aerial equipment, apply a minimum of three (3) gallons of diluted spray solution per acre. When applying with ground equipment, apply 10 to 15 gallons of total diluted spray solution per acre.

The effectiveness of Escort® may be enhanced when a surfactant is added to the solution. Use an 80 percent active surfactant at the concentration of one (1) quart per 100 gallons of spray. Add the surfactant as the last ingredient at the rate of one (1) quart per 100 gallons of spray volume. A drift control agent can be added, if desired.

Continuous agitation is required to keep Escort® in suspension. Avoid overlapping, and shut off spray booms while starting, turning, slowing, or stopping or injury to the crop may result.

SPRAYER CLEANUP

Immediately after spraying Escort®, thoroughly clean all traces of the herbicide from application equipment to avoid possible injury to other crops. For cleaning spray equipment, a solution of one gallon of household ammonia per 100 gallons of water is required. Flush tank, pump, hoses, and boom with several changes (3 or more) of water/ammonia solution after removing nozzle tips and screens (clean these parts separately).

100.4 Target Organisms

Broom snakeweed Gutierrezia sarothrae.

100.5 Precautionary Labeling

IMPORTANT

Injury to or loss of desirable trees or vegetation may result from failure to observe the following: Do not apply, drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts, or similar areas. Prevent drift of spray on desirable plants. Do not contaminate any body of water, including irrigation water that may be used on other crops. Carefully observe sprayer cleanup instructions, as spray tank residue may damage agricultural crops.

PRECAUTIONS

Do not graze livestock in treated areas within 1 day of applying Escort®.

Extreme care must be taken to prevent drift to desirable plants or nontarget agricultural land. Do not apply or allow spray to drift onto adjacent crops or onto agricultural land scheduled to be planted to other crops, as injury to the crop may occur.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food, or feed. Not for use or storage in or around the home. Keep container closed.

DISPOSAL: Product unused at the end of the Experimental Program should be returned to the Du Pont Company via the cooperator's program supervisor. Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Emptied containers should be triple-rinsed (or equivalent) and offered for recycling or reconditioning, or punctured and disposed of in a sanitary landfill, or by other procedures allowed by State and local authorities.

101.0 Hazard Assessment

101.1 Discussion

Escort® is a 60% active ingredient herbicide formulated as a dry flowable granule to be mixed in water and applied as a spray.

The product will be applied in western Texas and New Mexico. Total acreage in the two States will not exceed 3500 (1500 in Texas, 2000 in New Mexico).

Up to 218.75 pounds of Escort® 60 DF are required. The material will be applied using aerial and ground equipment.

Plot size will vary by location and application equipment. Generally, each test site will be 100 to 200 acres. Each site will compare three rates of material, with each rate applied on 25 to 50 acres. Subplots within each treatment will be evaluated for replication.

Treatment rates will be from 1/3 to 1 2/3 oz of product (0.198 to 0.996 oz ai) per acre.

Data to be collected will include percent control of broom snakeweed and safety to native grass species.

Percent control will be determined by comparison to broom snakeweed cover in untreated areas. Residue samples will be taken from most sites.

The experimental program should run for one calendar year to allow comparison of spring and fall application timings beginning in August 1986.

Escort® is absorbed both through foliage and roots. Under high soil pH and low rainfall, residual life can be quite long. Phytotoxicity symptoms usually start to appear within 30 days of application. However, death may not occur for 6 to 12 months after application.

Ally®, a 60% ai wettable powder formulation, is currently registered on barley, sorghum, wheat, corn (fallow), and sorghum (fallow). Escort® as a 60% ai wettable powder is registered on ornamental turf, noncrop areas, airports, rights-of-way, industrial sites, and tank farms.

101.2 Likelihood of Adverse Effects to Nontarget Organisms

Terrestrial

Metsulfuron methyl is practically nontoxic on an acute and subacute basis to avian species (mallard duck LD_{50} > 2510 mg/kg, LC_{50} > 5620 ppm; bobwhite quail LC_{50} > 5620 ppm).

Data on the rat report an LD_{50} of > 5000 mg/kg for both the male and female. For the rabbit the dermal LD_{50} was > 2000 mg/kg.

For the honeybee, data indicate the material is relatively nontoxic. The acute contact LD_{50} was estimated to be > 25 ug/bee.

Assuming an application of 1 2/3 oz Escort® (.996 oz ai) to rangeland, the following maximum expected residues would result: short rangegrass 14.94 ppm and long grass 6.85 ppm. These values are significantly below the LC_{50} values for both the mallard duck and bobwhite quail.

Based on data currently available, the proposed EUP does not pose a significant threat to avian species, mammals, or honeybees.

Aquatic

Data indicate that metsulfuron methyl is practically nontoxic to the rainbow trout, bluegill sunfish, and Daphnia magna, with LC_{50} values of > 150 ppm.

Using the maximum application rate of .996 oz ai/A, residues in a pond 6 feet deep would be .004 ppm. These levels are significantly below the LC_{50} values for aquatic organisms.

Based on data available, the proposed EUP does not pose a significant threat to nontarget aquatic species.

101.3 Endangered Species Considerations

Escort® will be tested in Texas and New Mexico on a relatively large scale (3500 acres). In an Office of Endangered Species (OES) biological opinion for paraquat on rangeland and pasture the following plant species in Texas and New Mexico were described as being at risk:

New Mexico

Lee pincushion cactus	Eddy
Sneed pincushion cactus	Dona Ana
Kuenzler hedgehod cactus	Otero, Chaves, Lincoln
Knowlton cactus	San Juan
Mesa Verde cactus	San Juan
McKittrick pennyroyal	Eddy (Eddy and Otero National Forest)
Todsen's pennyroyal	Sierra
Gypsum wild-buckwheat	Eddy
Rhizome fleabane	McKinley, Catron
Cirsium vinaceum	Otero

Texas

Sneed pincushion cactus	El Paso
Ashy dogweed	Zapata
Tobusch fishhook cactus	Bandera, Kerr
Nellie cory cactus	Brewster
Bunched cory cactus	Brewster, Terrell
Lloyd's hedgehod cactus	Pecos
Black lace cactus	Jim Wells, Kleburg, Refugio
Davis' green pitaya	Brewster
Lloyd's mariposa cactus	Brewster
Johnston frankenia	Zapata, Starr
McKittrick pennyroyal	Culberson (Guadalupe Mountains National Park)

Texas (continued)

Texas poppy-mallow	Runnels
Texas snowbells	Edwards, Real, Kimble, Val Verde
Novasota ladies'-tresses	Brazos
Texas wild-rice	Hays

Since the sites of application are not specified on a county basis, Escort® may not be applied in any of the above counties without written verification from the U.S. FWS Office of Endangered Species that the sites are void of any endangered/threatened species.

101.3 Adequacy of Toxicity Data

Studies previously submitted on the technical for avian single dose LD_{50}, avian dietary LC_{50} (two species), aquatic invertebrate acute toxicity, and freshwater finfish (cold and warmwater species) are acceptable and fulfill the Guideline requirements.

Prior to section 3 registration, data on the effect of metsulfuron methyl on nontarget plants will be required, §158.15, for seed germination/seedling emergence and vegetative vigor 122-1, and aquatic plant growth 122-2.

Pending fulfillment of the environmental fate studies, further tests may be needed to evaluate chronic impacts of metsulfuron methyl to nontarget organisms.

101.5 Adequacy of Labeling

The following statements should be added to the label:

> Do not contaminate water by cleaning of equipment or disposal of wastes.
>
> Do not apply in the range of any endangered/threatened species. Experimental sites should be verified as void of any endangered/threatened species at the time of application by written communications with the appropriate U.S. FWS Office of Endangered Species

All other proposed labeling is adequate for this EUP.

102.0 Classification

Not classified.

103.0 Conclusions

EEB has reviewed the proposed EUP for Escort® on pasture and rangeland. Based on data available, the proposed EUP will not pose significant increased adverse effects to nontarget organisms other than endangered/ threatened species.

Based on a biological opinion by OES, the endangered plants listed in section 101.3 would be at jeopardy if Escort® is applied in their range. However, compliance with label requirements in section 101.5 should preclude any adverse effects to endangered species.

Prior to section 3 registration, data on nontarget area phytotoxicity §158.150, 122-1 and 122-2 will be required.

Following review of complete environmental fate data, submission of additional toxicity data may be required.

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