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HEALTH EFFECTS DIVISION
SCIENTIFIC DATA REVIEWS
EPA SERIES 361

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Subject: ID# CO020006. Section 24(c) Special Local Needs Registration. Glyphosate in/on Dry Peas, Lentils, and Chickpeas.

DP Barcode: D284391

Class: Herbicide

PC Code: 417300, 103601

Submission: S618831

40 CFR: 180.364

EPA Reg. No.: 524-512, 524-445

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The State of Colorado has requested a Special Local Needs [Section 24(c)] registration for the use of Roundup Original herbicide to control weeds in dry peas, lentils, and chickpeas. Also, in a letter dated 28-MAR-2002, Monsanto Company submitted additional data intended to address deficiencies identified in a review conducted by RD (D256744, P.V. Errico, 18-JUN-2001) concerning Monsanto's 10-MAY-1999 request for use of Roundup Ultra herbicide at preharvest and spot treatment timings in peas, lentils, and chickpeas. The new data include a supplemental label for use of Roundup UltraMAX herbicide in the States of Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington. Monsanto cites the following field trial data as supporting the present amendment: 1) Interregional Project No. 4 (IR-4) dry pea data from 5 trials (no MRID number assigned yet), 2) MRID 42312804: Canadian data on peas (4 trials) and lentils (1 trial), and 3) MRID 45647501: dry bean residue data from 13 field trials conducted in the United States. Monsanto request that EPA consider these dry bean data to be supplementary surrogate data for dry peas, lentils, and chickpeas, since they are in the same crop subgroup (6C).

RD has requested that HED review the submitted 24(c) proposal and to determine if available data are adequate to support the established tolerance level of 5.0 ppm for "Vegetable, legume, group (except soybeans)." This tolerance level was established (*i.e.*, increased from a level of 0.2 ppm for preplant/preemergence uses of glyphosate) based on a recommendation in the Glyphosate Registration Eligibility Document (RED) to harmonize with the CODEX 5 ppm

maximum residue limit (MRL) (D256744, P.V. Errico, 18-JUN-2001). The MRL was based on a preharvest use pattern allowed in Canada, which created a source of friction for US growers. To alleviate this problem for US growers and eliminate the need for additional Section 18 registrations, certain Western states have proposed a 24(c) SLN registration allowing a preharvest glyphosate application to dry peas, lentils, and chickpeas, supported by residue data on dry pea, lentils, and dry beans.

CONCLUSIONS/RECOMMENDATIONS

The established tolerance level of 5.0 ppm for residues of glyphosate *per se* in/on the legume vegetable (except soybean) group is adequate to cover the proposed use of Roundup Original on dry peas, lentils, and chickpeas in Colorado. This tolerance level is also adequate to cover the proposed use of Roundup UltraMAX on dry peas, lentils, and chickpeas in the States of Idaho, Minnesota, Montana, Nebraska, North Dakota, Oregon, South Dakota, and Washington. However, as there are currently no crop groups/subgroups defined as "Vegetable, legume, group (except soybean)," HED recommends that RD replace this listing in 40 CFR § 180.364 with "Pea and bean, dried shelled, except soybean, subgroup 6C." HED concludes that there are no residue chemistry data requirements that would preclude approval of the proposed special local needs registration in Colorado or other states.

Detailed Considerations

Use Directions

Roundup Original - SLN for Colorado only [3 lbs ae/gal]

1) Broadcast spray: This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry peas, lentils, and chickpeas. Apply up to 24 fluid ounces (0.56 lbs ae) in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30% grain moisture or less). Either ground or aerial applications may be made. Apply at least 14 days before harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Observe at least a 30-day plant-back interval (PBI) between treatment and replanting for any crop not listed in the Roundup Original herbicide label. Preharvest application is not recommended for peas, lentils, or chickpeas grown for seed, as a reduction in germination or vigor may occur. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas grown as livestock feed.

2) Spot treatment: This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in peas, lentils, and chickpeas. Apply up to 24 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2% solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. Apply at least 14 days before harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Observe at least a 30-day PBI between treatment and replanting for any crop not listed in the Roundup Original herbicide label. Do not feed treated vines and hay from these

crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas grown as livestock feed.

Roundup UltraMAX - SLN for ID, MN, MO, NE, ND, OR, SD, and WA [3.7 lbs ae/gal]

1) Broadcast spray: This product may be applied as an over-the-top broadcast spray to control labeled weeds prior to the harvest of dry peas, lentils, and chickpeas. Apply up to 21 fluid ounces (0.61 lbs ae) in 3 to 20 gallons of water per acre at the hard dough stage of the legume seed (30% grain moisture or less). Either ground or aerial applications may be made. Apply at least 14 days before harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Observe at least a 30-day PBI between treatment and replanting for any crop not listed in the Roundup UltraMAX herbicide label. Preharvest application is not recommended for peas, lentils, or chickpeas grown for seed, as a reduction in germination or vigor may occur. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas grown as livestock feed.

2) Spot treatment: This product may be applied as a spot treatment to control troublesome weeds such as Canada thistle, quackgrass, mayweed (dog fennel), and milkweed in peas, lentils, and chickpeas. Apply up to 21 fluid ounces in 10 to 20 gallons of water through ground spray equipment or use a 2% solution in a hand-held sprayer. For best results, applications should be made at or beyond the bud stage of growth. Apply at least 14 days before harvest. Only one application per year may be made; do not combine a preharvest spray with a spot treatment on the same crop area. Observe at least a 30-day PBI between treatment and replanting for any crop not listed in the Roundup UltraMAX herbicide label. Do not feed treated vines and hay from these crops to livestock. Do not apply this product through any type of irrigation system. Do not treat field (feed) peas grown as livestock feed.

Crop Field Trials

1) IR-4 dry pea data. *Note:* These data have not been assigned an MRID number as they have not been officially submitted to EPA. They are provided for information only. These data should be officially submitted to EPA for consideration in any future Section 3 permanent registration.

Preharvest treatment of 5 trials of dry peas with 2.25 lbs glyphosate ae/A (4x the proposed rate for dry pea, lentil, and chickpea) 7 days prior to harvest produced residues of 0.59-6.19 ppm glyphosate in treated pea samples. Trials were conducted in North Dakota (region 5, n =2) and Washington (region 11, n = 3).

2) MRID 42312804: L. Horner (01-MAY-1992) "Glyphosate and AMPA Residues in Canadian Field Peas and Lentils Following Preharvest Applications of Roundup Herbicide." Unpublished Study prepared by Monsanto Company. 170 p.

Pea (4 trials) and lentil (1 trial) treatments 12-16 days prior to harvest using 0.60 lbs glyphosate ae/A (1x) led to residues of 0.90-4.45 ppm glyphosate. All trials were located in the province of Alberta, which may be considered climatically similar to Region 7 in the U.S. Additional data collected at higher treatment rates showed higher levels of glyphosate residues.

3) MRID 45647501: M.L. Kurtzweil and U.S. Kunda (27-MAR-2002) "Magnitude of Glyphosate Residues in Dried Shelled Beans Following Preharvest Application of Roundup UltraMAX Herbicide." Unpublished study prepared by Monsanto Company. 256 p.

Dry bean residue data from 13 trial sites following a 0.75 lb ae/A (1.2x) treatment 7 days prior to harvest were presented. Trial sites were in regions 1 (1 trial), 5 (6 trials), 7 (2 trials), 8 (1 trial), 9 (1 trial), 10 (1 trial), and 11 (1 trial). Residue levels were 0.01-1.56 ppm glyphosate.

Conclusions

All relevant residue levels were below 5.0 ppm except for the dry pea data reported by IR-4. However, these studies were conducted at 4x the proposed label rate and with a 7-day PHI instead of 14 days as specified on the proposed label. Accordingly, HED concludes that the established tolerance level of 5.0 ppm on legume vegetables (except soybeans) is adequate for the proposed special local needs registration requested by the petitioner. However, as there are currently no crop groups/subgroups defined as "Vegetable, legume, group (except soybean)," HED recommends that RD replace this listing in 40 CFR § 180.364 with "Pea and bean, dried shelled, except soybean, subgroup 6C."

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