



## **Register Express 50 SG Herbicide for use on pasture and rangeland. Evaluation Report for Category B, Subcategory 3.1, 3.11, 3.12 Application**

**Application Number:** 2006-3708  
**Application:** Register Express 50 SG Herbicide for use on pasture and rangeland  
**Product:** Express 50 SG Herbicide  
**Registration Number:** 28262  
**Active ingredients (a.i.):** Tribenuron methyl  
**PMRA Document Number:** 1493006

### **Background**

Tribenuron methyl is a selective post-emergence herbicide which acts primarily through foliar uptake, with little or no soil activity. Tribenuron methyl is currently registered for use in Canada formulated as a dry flowable, a water dispersible granule, or as an emulsifiable concentrate. It is registered for the control of broadleaf weeds in summerfallow spring wheat, durum wheat and barley by ground application in the Prairie Provinces and the Peace River Region of British Columbia, in wheat (spring, winter or durum), barley, oats, seedling and established grass species for forage and seed production, and in lowbush blueberries in Eastern Canada. Tribenuron methyl's mode of action is via the inhibition of the enzyme acetolactate synthase (ALS) in sensitive weeds, thereby leading to the rapid cessation of cell division and subsequent growth processes in plants.

### **Purpose of Application**

The purpose of this application is to register the use of Express 50SG at 15 g a.i./ha + a non-ionic surfactant at 0.2% v/v for broadleaf weed control, including common tansy, dandelion, narrow-leaved hawk's beard, tall buttercup, and white cockle on pasture and rangeland in the Prairie Provinces and the Peace River Region of British Columbia.

### **Chemistry Assessment**

A chemistry assessment was not required as there was no change to product chemistry.

## Health Assessments

The MOE calculated for workers mixing/loading and applying the proposed product to pasture and rangeland is above the target of 100. Postapplication activities for treated pasture and rangeland are expected to be minimal; and as such, a quantitative risk assessment was not required. Exposure to workers entering treated pasture and rangeland is not expected to increase over exposure for workers entering treated lowbush blueberry fields.

A Livestock feeding study was not submitted to support the addition of pasture and rangeland to the Express 50 SG Herbicide label. In lieu of a feeding study several field trials were submitted including field trials on grass seed, straw and seed screenings to demonstrate that the residues of tribenuron methyl on feed items is minimal, therefore, the anticipated residue in animal commodities would be minimal.

Following the review of submitted data, calculating the maximum theoretical dietary burden and calculating the anticipated residues in animal commodities it is unlikely that residues would be measurable in animal commodities as a result of the addition of pasture and rangeland to the current use pattern.

### Maximum Residue Limit(s)

Based on the maximum residues observed in feed items, it was determined that residues above the method limit of quantitation (LOQ) in animal commodities (meat and meat by-products), eggs and milk are not expected as a result of the additional use of Express 50 SG Herbicide.

Therefore, an MRL is proposed for meat and meat by-products of cattle, goats, hogs, horses, sheep and poultry, as well as eggs. At the limit of quantitation of the enforcement method: 0.02 ppm. Furthermore, the MRL for milk will be revised from 0.01 ppm to 0.02 ppm since the LOQ of the analytical method accepted as the enforcement method is 0.02 ppm.

Commodity	Application Method/ Total Application Rate (g a.i./ha)	PHI (days)	Tribenuron methyl Residues (ppm)		Experimental Processing Factor	Currently Established MRL	Recommended MRL
			Min	Max			
Grass	17.5 to 35	56 to 85	0.016	0.016	None	None	N/A

N/A = not applicable as MRLs are not set on feed items.

## Environmental Assessment

Based on the outcome of the environmental risk assessment, it is not expected that the use of Express 50 SG Herbicide at a rate of 15 g a.i./ha will pose an unacceptable risk to the environment. The current 15-m buffer zone adequately mitigates the potential risk to terrestrial and aquatic habitats.

## **Value Assessment**

Efficacy data were submitted from a total of 20 field studies conducted over 3 years in Alberta and Saskatchewan. Percent weed control (%) was visually assessed in all trials. Based on the data made available, Express at 15 g a.i./ha + Agral 90 or AgSurf at 0.2% v/v provided an average of 87.2% dandelion control over 10 trials, 88.8% white cockle control over 7 trials, and 84.6% common tansy control over 3 trials. A lower rate of Express at 7.5 g a.i./ha + Agral 90 or AgSurf at 0.2% v/v provided an average of 85.8% narrow-leaved hawk's beard control over 4 trials and 89.8% tall buttercup control over 8 trials. Therefore, a season long control of dandelion, white cockle, and common tansy for Express 50SG at 15 g a.i./ha + a non-ionic surfactant at 0.2% v/v and narrow-leaved hawk's beard and tall buttercup for Express 50SG at 7.5 g a.i./ha + a non-ionic surfactant at 0.2% v/v can be supported from an efficacy standpoint.

Crop tolerance data were submitted from a total of 11 field studies conducted over 3 years in Alberta and Saskatchewan. Crop tolerance was assessed visually as percent crop injury (%) for crested wheatgrass in 2 trials, meadow bromegrass in 2 trials, smooth bromegrass in 5 trials, orchardgrass in 4 trials, timothy in 9 trials, Kentucky bluegrass in 7 trials, and bluegrass in 1 trial. Mean crop injury of all the tested grass species, except for timothy, was minor and acceptable (less than 3% at the later ratings). A higher mean crop injury of timothy to Express was observed in some trials at the earlier ratings. However, where crop injury of timothy to Express + Agral 90 was apparent, high crop injury to the registered 2,4-D Amine + Banvel II or Banvel II alone was also observed. In addition, mean crop injury of timothy to Express at 15 g a.i./ha was 7.0% over 8 trials at the later rating, which is considered to be acceptable. Overall, crop safety of the tested grass species to Express at 15 g a.i./ha + a non-ionic surfactant at 0.2% v/v for which data were provided is acceptable.

The data submitted in support of the first registration of tribenuron methyl (application number 1987-0024) confirmed the decision made under the subject application.

## **Conclusion**

The PMRA has completed an evaluation of the subject application and has found the information sufficient to amend the registration of Express 50 SG Herbicide for the addition of pasture and rangeland to the current use pattern.

## **MRLs**

Following the review of all available data, an MRL of 0.02 ppm for meat and meat by-products of cattle, goats, hogs, horses, sheep and poultry, as well as eggs will be specified. Furthermore, the MRL for milk will be revised from 0.01 ppm to 0.02 ppm since the LOQ of the analytical method accepted as the enforcement method is 0.02 ppm. Residues of tribenuron methyl at the recommended MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

## References

### A. List of Studies/Information Submitted by Registrant

<u>Value Assessment References</u>	
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1265356	DuPont-18671 supplement-1: Test reports. August 30, 2005. E.I. du Pont Canada Company. DACO 10.2.3.3 and DACO 10.3.2. pp. 208
1232057	Express + 2,4-D: Efficacy - postemergence applications on wheat (spring and durum) or barley. 1987. E.I. du Pont Canada Company. DACO 10.2.3.3. pp. 47.
1232056	Express crop tolerance: Spring wheat, durum wheat and barley. 1987. E.I. du Pont Canada Company. DACO 10.3.2. pp. 16.
<u>Environmental Assessment References</u>	
1265326	Tribenuron Methyl(DPX-L5300) 50 SG: Influence on Growth and Reproduction of <i>Lemna gibba</i> G3. E.I. du Pont de Nemours and Company. Company Report No. DuPont-11438. Study Date: February 26, 2003. 50p. DACO 9.8.5.
1265343	Tribenuron Methyl ( DPX-L5300) 50 SG: A Greenhouse Study to Investigate the Effects on vegetative vigor of Two Sensitive Terrestrial Plants Following Foliar Exposure. Wildlife Intentional Ltd. for E.I. du Pont de Nemours and Company. Company Report No. DuPont-11388. Study Date: July 16, 2003. 64 pages. DACO 9.8.4.
<u>Health Assessment References</u>	
1265243	2000, Waiver for Cattle Feeding Studies for Tribenuron Methyl, N/A, MRID: na, DACO: 6.2,7.5
1265251	1996, Analytical Method for the Determination of Tribenuron methyl (DPX-L5300) in Whole Milk, Eggs and Animal Tissues (Beef and Poultry Muscle) by HPLC, 43239, MRID: na, DACO: 7.2
1265252	2000, Independent Laboratory Validation and Confirmatory Methodology of Dupont Method Report Number AMR 3698-95 "Analytical Method for the Determination of Tribenuron Methyl (DPX-L5300) in Whole Milk, Eggs and Animal Tissues (Beef and Poultry Muscle) by H
1265255	1992, Magnitude of residues of tribenuron methyl in grass seed, straw, and seed screenings., AMR 1991-91, MRID: 43118002, DACO: 7.4.1,7.4.6
1265257	2000, Magnitude of residues of thifensulfuron methyl and tribenuron methyl in cotton folowing application of Harmony Extra at maximum label rates., AMR 4343-97, MRID: na, DACO: 7.4.1
1279024	1988, Testing of DPX-L5300 through FDA multi-residue protocols I-IV., 87-003, MRID: na, DACO: 7.2.4

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