

## Evaluation Report for Category B, Subcategory 3.11, 3.12 and 3.5 Application

**Application Number:** 2015-0832  
**Application:** New or Changes to Product Label – New Pests, New Site or Host and Rotational Crops  
**Product:** Command 360 ME  
**Registration Number:** 27827  
**Active ingredients (a.i.):** Clomazone  
**PMRA Document Number :** 2645948

### Background

Command 360 ME, formulated as a microencapsulated suspension, was first registered in October 2004. Command 360 ME is applied at up to 842 g a.i./ha (2.35 L/ha) for pre-emergent weed control or suppression of certain broadleaved and grass weeds in soybean, field cucumber, melon, squash, pepper, and processing pumpkin, and for post-transplant application in field sweet potato and pepper. For specific details of uses, application rates and methods, precautions, restrictions, and personal protective equipment requirements, refer to the product label.

### Purpose of Application

The purpose of this application was to amend the registration of Command 360 ME to include an early-season cleavers control in canola and to add spring wheat as a rotational crop. Command 360 ME is intended for application in combination with a later application of a post-emergence herbicide to canola as a systems approach to control cleavers throughout the crop cycle and to mitigate the potential development of resistance of cleavers to other herbicide options.

### Chemistry Assessment

A chemistry assessment was not required for this application.

### Health Assessments

A toxicology assessment was not required for this application.

An updated health risk assessment for clomazone was conducted for chemical handlers. No risks of concern are expected from the new use, provided workers follow the label directions and wear the personal protective equipment identified on the label.

Residue data from field trials conducted in Canada were submitted to support the use of Command 360 ME on canola. Clomazone was applied to canola at the supported and exaggerated rates and harvested according to label directions. In addition, residue data from studies conducted at exaggerated rates in treated canola were assessed to

determine the potential for concentration of residues of clomazone into processed commodities.

### Maximum Residue Limit(s)

The recommendation for maximum residue limits (MRLs) for clomazone was based upon the submitted field trial data, and the guidance provided in the [OECD MRL Calculator](#). MRLs to cover residues of clomazone in/on crops and processed commodities are proposed as shown in Table 1. Residues in processed commodities not listed in Table 1 are covered under the proposed MRLs for the raw agricultural commodities (RACs).

**TABLE 1. Summary of Field Trial and Processing Data Used to Support Maximum Residue Limit(s) (MRLs)**

Commodity	Application Method/ Total Application Rate (g a.i./ha)	PHI (days)	Clomazone Residues (ppm)		Experimental Processing Factor	Currently Established MRL (ppm)	Recommended MRL (ppm)
			LAFTHAFT	HAFT			
Canola seed	Preplant soil application/ 404-436	90-122	<0.02	<0.02	No quantifiable residues observed when treated at exaggerated rates	None	0.05*
	Preplant soil application/ 2110	122	<0.02	<0.02			

LAFTHAFT = Lowest Average Field Trial; HAFT = Highest Average Field Trial

\* Limit of Quantitation (LOQ) of the enforcement method

### Environmental Assessment

An environmental assessment was not required for this application.

### Value Assessment

Cleavers is a problematic weed species particularly in canola because it clings to plants and the seed is of similar size and shape to that of canola, which makes cleavers seed a serious contaminant that frequently results in downgrading of the canola crop. The option to apply Command 360 ME prior to planting herbicide tolerant canola varieties for the suppression or control of this weed will improve the competitiveness of this crop during early development. Additional control is then achieved with a post-emergence application of the herbicide to which the particular canola variety is tolerant. As clomazone represents a new mode of action for use in canola to control cleavers, it would be expected to mitigate the development of resistance of cleavers to registered herbicide options, including glyphosate. This is an important consideration given that large populations of cleavers have developed resistance to group 2 herbicides and to the group 4 herbicide, quinclorac.

The applicant submitted reports of eight small-scale field performance studies. The trials were conducted in 2012 and 2013 in Manitoba, Saskatchewan and Alberta and planted to glyphosate

and/or glufosinate-ammonium tolerant canola. Treatments included one or more of Command 360 ME applied at 90 or 120 g a.i./ha pre-plant as the sole treatment or followed by a post-emergence treatment of 400 g a.i./ha Liberty 150 SN or 450 g a.e./ha Roundup WeatherMax.

The data indicate that Command 360 ME applied pre-plant and prior to cleavers emergence at rates of 90 and 120 g a.i./ha can be expected to result in early-season cleavers suppression and control, respectively. Evaluations conducted after the application of 400 g a.i./ha Liberty or 450 g a.e./ha Roundup WeatherMax indicated that mid-season control of cleavers was achieved where Command 360 ME had been applied at 90 or 120 g a.i./ha. In the trials in which a late season evaluation had been conducted, the level of cleavers control in the sequential treatments of 90 or 120 g a.i./ha Command 360 ME followed by 400 g a.i./ha Liberty was greater than Liberty or Command 360 ME alone. The level of control was similar over three trials between the treatment of 450 g a.e./ha Roundup WeatherMax alone and the sequential treatments of 90 or 120 g a.i./ha Command 360 ME and 450 g a.e./ha Roundup WeatherMax. Canola exhibited acceptable tolerance to Command 360 ME applied at up to 150 g a.i./ha prior to planting. This was corroborated with yield data recorded in three trials.

Use history information was submitted to support spring wheat as a rotational crop. Over a ten year period, wheat in multiple U.S. northern states was not impacted by application of 562 g a.i./ha (1.56 L product/ha) 12 months after application of the U.S.-registered product, "Command 3 ME Microencapsulated Herbicide", which also contains 360 g clomazone/L. Where winter wheat had been planted as a cover crop four months after a spring application of 842 g a.i./ha Command 3 ME (2.35 L/ha), only occasionally was any injury and stand reductions observed. Additionally, wheat has been labelled as a rotational crop when grown 12 months or more after application of the maximum U.S. rate of 1.0 lb a.i./acre (1156 g a.i./ha or 3.12 L/ha) since 2001. Therefore, it can be expected that spring wheat will exhibit adequate tolerance to any remaining soil residue of clomazone in the year after application.

## **Conclusion**

The PMRA has conducted an assessment of the subject application and has determined that the submitted information is adequate to support the use of Command 360 ME applied at 90 to 120 g a.i./ha prior to planting herbicide-tolerant canola and prior to weed emergence for the early season suppression (90 g a.i./ha) or control (120 g a.i./ha) of cleavers. Command 360 ME is intended for use as a component of a weed management plan that includes a post-emergence application of a herbicide to which the canola crop is tolerant and that is effective against cleavers to achieve season-long control of this troublesome weed. The submitted information supports spring wheat as a rotational crop in the year after application.

Following the review of the available data, an MRL as proposed in Table 1 is recommended to cover residues of clomazone. Residues in this crop commodity at the proposed MRL will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

## **References**

**PMRA#    Reference**

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- 2506973 Cleavers Control and Canola Tolerance for the Pre-Seed, Preemergence Soil Surface Applied Herbicide Command 360 ME (360 g/L) DACO: 10.1,10.2,10.2.1,10.2.2,10.2.3,10.2.3.1,10.2.3.3,0.2.3.3(B),10.3,10.3.1,10.3.2,10.3.2(A),10.3.3,10.4,10.5,10.5.1,10.5.2,10.5.3,10.5.4,10.5.5

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