

## Evaluation Report for Category B, Subcategory 3.10 and 3.11 Application

**Application Number:** 2016-1703  
**Application:** New Tank Mixes and New Pests  
**Product:** Paradigm Herbicide  
**Registration Number:** 31304  
**Active ingredients (a.i.):** Halauxifen and Florasulam  
**PMRA Document Number:**

### Background

Paradigm Herbicide was first registered June 17, 2014. It is registered for post-emergence application at 25 g/ha (10 g a.e./ha: 5 g halauxifen and 5 g pyroxsulam/ha) with 0.5% v/v Turbocharge Adjuvant, 0.25% v/v non-ionic surfactant, or 0.5-1.0% v/v Intake Adjuvant in the Prairie Provinces and Peace River region of British Columbia. Paradigm Herbicide may only be applied with ground sprayer equipment to spring wheat, including durum, and spring barley from the crop 2-leaf to just prior to the flag leaf stage and to winter wheat from the crop 3-leaf to just prior to the flag-leaf stage for the control or suppression of certain broadleaved weeds. Paradigm Herbicide is also labelled for application in tank mixtures with several other herbicides for broader spectrum weed control. 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 expand the registration of Paradigm Herbicide to include a control claim for velvetleaf and a suppression claim for white cockle when applied at 25 g/ha to labelled cereal crops. An additional objective was to add a tank mixture of 25 g/ha Paradigm Herbicide plus 70 g/ha Simplicity GoDRI Herbicide, containing 21.5% pyroxsulam, for spring application to spring wheat, including durum, and winter wheat for control or suppression of weeds listed on the labels of both products plus control of white cockle. Addition of 0.5% v/v Merge was also requested as an additional adjuvant option for Paradigm Herbicide applied alone or in tank mixture with Simplicity GoDRI Herbicide.

### Chemistry Assessment

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

### Health and Environmental Assessments

Health and environmental assessments were not required as there was no change to the use pattern, including host crops, application methods, timings and rates.

## **Value Assessment**

The addition of a control claim for velvetleaf and a suppression claim for white cockle will provide growers with an additional herbicide option to combat these hard-to-kill weeds. The option to tank mix Paradigm Herbicide with Simplicity GoDRI Herbicide will provide a one-pass option to control white cockle in addition to controlling or suppressing weeds listed on the labels of both products. The option to use Merge Adjuvant will provide growers additional flexibility in choice of surfactant, e.g., depending on availability and price.

Performance data generated in small-scale field trials demonstrated that Paradigm Herbicide applied, in combination with 0.5% v/v Turbocharge Adjuvant or 1% v/v Intake Adjuvant, to spring wheat at the registered rate of 25 g/ha (10 g a.e./ha: 5 g halauxifen plus 5 g florasulam/ha) resulted in consistent suppression of white cockle from the seedling stage to flower bud stage. Control of white cockle was achieved with the tank mixture of this rate of Paradigm Herbicide plus Simplicity GoDRI Herbicide at 70 g/ha (15 g pyroxsulam/ha). As control of velvetleaf was demonstrated for GF-2685 Herbicide applied at 50 g/ha (5 g halauxifen/ha) (Sub. No. 2016-1705), control would also be expected following application of Paradigm Herbicide, which controls numerous broadleaved weeds.

Efficacy data generated in small-scale field trials also demonstrated that 25 g/ha Paradigm Herbicide plus 0.5% v/v Merge Adjuvant resulted in a similar level of control of each of several labelled weed species as Paradigm Herbicide plus 0.5% v/v Intake Adjuvant. The same was demonstrated for Paradigm Herbicide tank mixed with Simplicity GoDRI Herbicide. Spring wheat demonstrated a high margin of crop safety to Paradigm Herbicide as the sole herbicide or tank mixed with Simplicity GoDRI Herbicide regardless of whether Intake Adjuvant or Merge Adjuvant was used. Similarly, Merge Adjuvant would not be expected to substantially affect the margin of crop safety as compared to Intake Adjuvant for other labelled cereal crops.

## **Conclusions**

The PMRA has conducted an assessment of the subject application to amend the registration of Paradigm Herbicide and has determined that the submitted information is adequate to support a claim of control of velvetleaf (up to the 5-leaf stage), a claim of suppression of white cockle (spring seedlings to overwintered plants up to the bud stage), a claim of control of white cockle for Paradigm tank mixed with Simplicity GoDRI, and Merge Adjuvant as an additional adjuvant option for Paradigm applied as the lone herbicide or in a tank mixture with Simplicity GoDRI Herbicide.

## References

### List of Studies/Information Submitted by Registrant

#### Value Assessment

2623933	2016, Trial Reports (14) - Add weeds -AMBTR_ABUTH_MELAL_v11- add Velvetleaf, giant ragweed, white cockle, DACO: 10.2.3.3
2623934	2016, Trial Reports (7) - Add Merge, DACO: 10.2.3.3

ISSN: 1911-8082

**8 Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services Canada 2016**

All rights reserved. No part of this information (publication or product) may be reproduced or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise, or stored in a retrieval system, without prior written permission of the Minister of Public Works and Government Services Canada, Ottawa, Ontario K1A 0S5.