



Evaluation Report for Category B, Subcategory 3.11 Application

Application Number: 2014-3836
Application: New Pests
Product: Pristine WG Fungicide
Registration Number: 27985
Active ingredients (a.i.): boscalid and pyraclostrobin
PMRA Document Number : 2492548

Background

Pristine WG Fungicide was first registered March 8, 2005. Registered uses include foliar application to pome fruit crops, specifically apple, crabapple, pear, oriental (asian) pear, quince, loquat and mayhaw, at 1.0-1.2 kg/ha (equivalent to 380-456 g a.i./ha (128-154 g pyraclostrobin/ha+252-302 g boscalid/ha) for the control of apple scab (*Venturia inaequalis*), pear scab (*Venturia pirina*), and powdery mildew (*Podosphaeria obtusa*) and at 0.6-0.8 kg/ha (228-304 g a.i./ha) for the control of flyspeck (*Zygophiala jamaicensis*), sooty blotch (disease complex) and brooks spot (*Mycosphaerella pomi*). A maximum of four applications may be made per season, with the first application made prior to disease development, at an interval of 7-14 days, except 7-10 days for scab and powdery mildew. Application at higher rates and shorter intervals is recommended when disease pressure is high and/or during periods of rapid growth. 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 Pristine WG Fungicide to include claims of control of bitter rot caused by *Colletotrichum* spp., glomerella leaf blotch caused by *Glomerella cingulata*, and both black rot and frog-eye leaf spot caused by *Botryosphaeria obtusa* on labelled pome fruit crops at rates of 1.0-1.2 kg/ha and an application interval of 7-14 days, except 7-10 days for frog-eye leaf spot.

Chemistry Assessment

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

Health and Environmental Assessment

Health and environmental assessments were not required as the only change to the use pattern was the addition of two new pests to the label; there was no change to host crops, application methods, timings and rates.

Value Assessment

Value information submitted in support of expanding the registration of Pristine WG Fungicide to include the requested additional disease claims in pome fruit crops consisted of use history information and a published article. The information submitted specifically pertained to bitter rot caused by *Colletotrichum* spp. and black rot caused by *Botryosphaeria obtusa*. Performance of the U.S.-registered Pristine Fungicide, similar to the Canadian-registered Pristine WG Fungicide, was collectively rated as “Good” to “Excellent” for both diseases on apple by the “University of Kentucky Cooperative Extension Service”, the “Virginia, West Virginia, and Maryland Cooperative Extension Service”, and by the “2013 Midwest Tree Fruit Spray Guide.” An assumption was made that these ratings pertained to Pristine Fungicide applied to pome fruit at labelled rates, which are similar to those labelled for the Canadian-registered Pristine WG Fungicide. The performance rating against bitter rot was further supported by trial data published in an article in the New York Fruit Quarterly (Volume 20, No. 4, Winter 2012), “A New Fungicide for Controlling Summer Diseases on Apples?” Based on this information, a claim of control is supported for bitter rot and black rot. Claims of control of glomerella leaf blotch and frog-eye leaf spot were supported as the former is caused by *Glomerella cingulata*, which is the sexual stage of bitter rot that affects the fruit and that is caused by both *Colletotrichum gloeosporioides* and *C. acutatum*, while frog-eye leaf spot is caused by the same causal pathogen, *Botryosphaeria obtusa*, as black rot. Additionally, it is recognized that early control of these leaf diseases may reduce potential for the development of bitter rot and black rot on fruit.

The same disease-pathogen combinations supported for apple are also supported for labelled pome fruit species, as these diseases may also occur on these species.

The availability of Pristine WG Fungicide to apple growers will provide an alternative mode of action for the control of bitter rot and black rot/frog-eye leaf spot in apple, which would likely be used in rotation with Fungicide Resistance Action Committee (FRAC) group M fungicides that are registered for control of these diseases in that crop. Pristine WG Fungicide is the only fungicide option available for control of these specific diseases in other listed crops within the pome fruit crop group. The relative fungicidal activity of boscalid (FRAC group 7) and of pyraclostrobin (FRAC group 11) on the causal pathogens of each of these diseases is not clear, as information was not presented to address this.

There are three priorities listed in the Canadian Grower Priority Database for black rot (two in apple and one in pear) and none that are specific for bitter rot. However, there are two priorities for “rots”, one each in apple and pear and several for post-harvest diseases that would include diseases, such as bitter rot and black rot. Pristine WG Fungicide is included in the list of Minor Use Priorities for both apple and pear for post-harvest disease control. An amendment to the registration of Pristine WG Fungicide to include use to control bitter rot, black rot and frog-eye leaf spot would allow Canadian growers the same means to control these diseases as growers in the U.S.

Conclusion

The PMRA has conducted an assessment of the subject application and has determined that the submitted information is adequate to support claims against glomerella leaf blotch caused by *Glomerella cingulata*, bitter rot caused by *Colletotrichum* spp. and black rot/frog-eye leaf spot caused by *Botryosphaeria obtusa* on labelled pome fruit crops for Pristine WG Fungicide applied

at 1.0-1.2 kg/ha every 7-14 days, except every 7-10 days for glomerella leaf blotch and frog-eye leaf spot.

References

List of Studies/Information Submitted by Registrant

Value Assessment

2456315	Office of Communications and Marketing in the College of Agriculture and Life Sciences, Virginia, West Virginia, and Maryland Cooperative Extension, 2014, 2014 Spray Bulletin for Commercial Tree Fruit Growers, DACO: 10.2.3
2456317	Ward, N., 2013, Effectiveness of Fungicides for Management of Apple Diseases, DACO: 10.2.3
2456319	Rosenberger, D. et al., 2013, A New Fungicide for Controlling Summer Diseases on Apples?, DACO: 10.2.3
2456320	Ontario Ministry of Agriculture and Food, Ministry of Rural Affairs, 2014, Chapter 3: Apples, Publication 360, Guide to Fruit Production 2014-2015, DACO: 10.5.1

ADDITIONAL INFORMATION CONSIDERED

List of Published Information Considered

Value Assessment

2478759	2013 Midwest Tree Fruit Spray Guide, page 45. file:///D:/user/data/Downloads/PM1282%20(3).pdf
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