

## Evaluation Report for Category B, Subcategory 3.12 Application

**Application Number:** 2013-1410  
**Application:** New or Changes to Product Labels-New Site or Host  
**Product:** Bravo Zn Agricultural Fungicide  
**Registration Number:** 28900  
**Active ingredients (a.i.):** Chlorothalonil  
**PMRA Document Number:** 2417758

### Purpose of Application

The purpose of this application was to add all the currently registered crops from the Bravo 500 Agricultural Fungicide label (PMRA Reg. No. 15723) to the Bravo Zn Agricultural Fungicide label. The uses are part of Use-Site Categories 13 (Terrestrial feed crops), 14 (Terrestrial food crops), and 27 (Ornamentals outdoor).

### Chemistry Assessment

A chemistry assessment was not required for this application.

### Environmental Assessment

No environmental concerns were identified as the proposed application rate of chlorothalonil, application method and equipment used for all crops listed on the proposed Bravo ZN Agricultural Fungicide label are the same as those on the registered Bravo 500 Agricultural Fungicide label.

### Health Assessments

No increase in occupational exposure is anticipated when compared to the currently registered uses for chlorothalonil provided all handlers and workers follow the precautions on the label.

No new food residue chemistry data were submitted for chlorothalonil to support the addition of Broccoli, Brussels sprouts, cabbages, cauliflower, carrot, celery, chickpea, dry pea, lentils, wheat, mushroom, onions (dry bulb and bunching), parsnip, sweet corn, tomato (including processing tomatoes), blueberry, cherry (sweet and sour), cranberry, peach, nectarine, strawberry, evening primrose, ginseng, asparagus, lowbush (wild) blueberry (sprout year), cantaloupe, cucumber, muskmelon, honey dew, watermelon, squash, pumpkin, citron melon, chayote (fruit), Chinese waxgourd, gherkin, edible gourd, *Momordica spp.*, pumpkin, summer squash, winter squash and a revised use pattern for potatoes to the Bravo Zn Agricultural Fungicide label.

The precedent product, Bravo 500 Agricultural Fungicide (Reg. No. 15723; 500 g/L chlorothalonil) and Bravo Zn Agricultural Fungicide are considered to be biologically equivalent; therefore, all of the already registered uses only as indicated on the Bravo 500 Agricultural Fungicide label can be extrapolated to Bravo Zn Agricultural Fungicide label. Based on this assessment, the dietary exposure to chlorothalonil is not expected to increase and will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

### **Value Assessment**

Ten bridging trials in cauliflower, chickpea, tomato and blueberry were reviewed to confirm that Bravo Zn Agricultural Fungicide provides equivalent control to Bravo 500 Agricultural Fungicide on various diseases. Overall, the weight of evidence presented in the bridging trials demonstrated that Bravo Zn Agricultural Fungicide provided equivalent control of all seven diseases on tested crops to Bravo 500 Agricultural Fungicide. Bravo Zn Agricultural Fungicide reduced downy mildew by 35 – 57%, compared to 49 – 53% reduction with Bravo 500 Agricultural Fungicide in two cauliflower trials. In the three chickpea trials, both Bravo Zn Agricultural Fungicide and Bravo 500 reduced *Ascochyta* infection by an average of 51% (46 – 58%) and 62% (57 – 64%), respectively. In one tomato trial, both Bravo Zn Agricultural Fungicide and Bravo 500 Agricultural Fungicide significantly reduced anthracnose by 90% and 87% at 89 days after application, respectively. Bravo Zn Agricultural Fungicide and Bravo 500 Agricultural Fungicide also reduced rust severity by an average of 70% and 75% at 50 days after application in two lowbush blueberry trials. Based on the efficacy data from the bridging trials and other value information reviewed, the addition of registered uses from Bravo 500 Agricultural Fungicide to Bravo Zn Agricultural Fungicide is supported. The value of registering Bravo Zn Agricultural Fungicide in Canada will provide Canadian growers an additional product with the active chlorothalonil to include in disease management programs.

### **Conclusion**

The Pest Management Regulatory Agency has completed an assessment of the information provided and can support the addition of all the currently registered crops from the Bravo 500 Agricultural Fungicide label (PMRA Reg. No. 15723) to the Bravo Zn Agricultural Fungicide label.

## References

PMRA  
Document  
Number

- 2278056 2013, Efficacy Summary, DACO: 10.1,10.2.3.1,10.3.1,10.3.2
- 2278058 2007, Evaluation of Bravo ZN for Control of leaf blight (*Alternaria brassicola*) on cauliflower, DACO: 10.2.3.3
- 2278059 2007, Evaluation of Revus for Control of downy mildew (*Peronospora parasitica*) on cauliflower, DACO: 10.2.3.3
- 2278061 2012, Evaluate bridging Bravo 500 to Bravo Zn and Quadris Top variants to each other for control of *Ascochyta* in chickpeas, DACO: 10.2.3.3
- 2278063 2012, Evaluate bridging Bravo 500 to Bravo Zn and Quadris Top variants to each other for control of *Ascochyta* in chickpeas, DACO: 10.2.3.3
- 2278064 2012, Evaluate bridging Bravo 500 to Bravo Zn, and Quadris Top variants to each other for control of *Ascochyta*, DACO: 10.2.3.3
- 2278065 2012, Evaluate bridging Bravo 500 to Bravo Zn, and Quadris Top variants to each other for control of *Ascochyta*, DACO: 10.2.3.3
- 2278067 1996, Fungicide for of disease on processing tomatoes, DACO: 10.2.3.3
- 2278068 2012, Evaluate bridging Bravo 500 to Bravo ZN and Quadris Top variants to each other for control of anthracnose on tomato, DACO: 10.2.3.3
- 2278069 2012, Septoria leaf spot, blueberry rust and valdensinia leaf spot control in wild blueberry, DACO: 10.2.3.3

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