

Evaluation Report for Category B, Subcategory 3.12 Application

Application Number: 2023-1330
Application: New Product Label-New Site
Applicant: BASF Canada Inc.
Product: Lexicon
Registration Number: 35238
Active ingredients (a.i.): Fluxapyroxad and pyraclostrobin
PMRA Document Number: 3600285

Purpose of Application

The purpose of this application was to register a commercial fungicide, Lexicon, for use on golf course turfgrass, based on a precedent product.

Chemistry Assessment

Lexicon is formulated as a suspension containing fluxapyroxad at a concentration of 167 g/L and pyraclostrobin at a concentration of 333 g/L. This end-use product has a density of 1.16 – 1.17 kg/L and pH of 6.0 – 8.0. The chemistry requirements for this product have been fulfilled.

Health Assessments

Based on the precedent product, Lexicon is moderately acutely toxic by the oral route, of low acute dermal and inhalation toxicity. It is minimally irritating to the eyes and mildly irritating to the skin. It is not a dermal sensitizer.

Lexicon does not represent an expansion of the use pattern for pyraclostrobin. However, with an application interval at the maximum application rate that is shorter than the existing use pattern of fluxapyroxad, it is an expansion of use for this active ingredient from a postapplication exposure perspective. As such, risk assessments were conducted for the exposure of fluxapyroxad to golf course workers and golfers. No health risks of concern were identified provided that workers wear the appropriate personal protective equipment and follow all label directions. Therefore, the registration of Lexicon can be supported from an occupational/residential exposure perspective.

No food residue data were submitted or required to support the use of Lexicon on golf course turfgrass. The use pattern does not represent an expansion of use for either pyraclostrobin or fluxapyroxad. The current estimated environmental concentrations (EECs) for each active ingredient are adequate to protect consumers from dietary exposure to pyraclostrobin and fluxapyroxad following the use Lexicon. The use of pyraclostrobin and fluxapyroxad on golf course turfgrass will not result in health risks of concern for any segment of the population, including infants, children, adults, and seniors.

Environmental Assessment

The use of Lexicon on golf course turf is within the currently registered use pattern for pyraclostrobin and fluxapyroxad. Therefore, the risk is acceptable when Lexicon is used in accordance with the label, which includes statements to mitigate risks to the environment.

Value Assessment

To support the value of claims to control a suite of fungal diseases on golf course turfgrass, the applicant submitted the results of field efficacy trials, extrapolations from label claims for registered products, information on the use history of Lexicon in the U.S., U.S. extension reports, and scientific rationales. The provided information demonstrated that Lexicon reduced disease severity by over 80% for the claims, which is aligned with the high functional and aesthetic standards for golf course turfgrass.

Lexicon is a premix of two active ingredients that manage fungal diseases with two unique modes of action. The combination broadens the spectrum of disease management, provides resistance management of certain turfgrass pathogens and simplifies fungicide application compared to similar products containing only one active ingredient.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided, and has found the information acceptable to support the registration of Lexicon for use on golf course turfgrass.

References

PMRA

Document

Number	Reference
3450777	2023, Product Identification CBI, DACO: 3.1,3.1.1,3.1.2,3.1.3,3.1.4
959219	2000, Insignia Pyraclostrobin (Proposed): Petition for Application in Turf, DACO: 10.1,10.2,10.2.2,10.2.3.1,10.2.3.3,10.3.1,10.3.2
959220	2000, Turf: Trial Abstracts, DACO: 10.2.3.3,10.3.2
959419	2000, Turf: Trial Abstracts, DACO: 10.2.3.3,10.3.2
3304016	2021, DACO 10 - Trial Reports Xzemplar, DACO: 10.2.3.3(D),10.3.2(B)
3450772	2023, DACO 10.1 - Value Assessment: Lexicon Fungicide - Disease Control in Golf Course Turf, DACO: 10.1
3450773	2023, DACO 10 - Summary Tables Research Trials: Lexicon Turf, DACO: 10.2.3.1,10.3.1
3450774	2023, Lexicon Claims Comparison Table, DACO: 10.2.3.1,10.3.1
3450775	2023, Efficacy Trial Reports: Lexicon, DACO: 10.2.3.3(D),10.3.2(B)
3450776	2023, DACO 10.2.4 Use History: Lexicon Fungicide for Disease Control in Golf Course Turf, DACO: 10.2.4

Additional Information Considered

2543685	Wong, F.P. and Stowell, L., 2006, Evaluation of fungicides for the curative control of brown ring patch in southern California, Spring 2006, Plant Disease Management Reports 1:T062, DACO: 10.2.3.3.
2543686	Wong, F.P., et. al., 2008, Evaluation fungicides for the control of brown ring patch in southern California, 2008, Plant Disease Management Reports 3:T008, DACO: 10.2.3.3.
2543687	Settle, D. and Rincker, K., 2008, Fungicide for the curative control of brown ring patch on a Chicago <i>Poa annua</i> golf green, 2008, Plant Disease Management Reports 3:T033, DACO: 10.2.3.3.
2543690	Settle, D. and Rincker, K., 2009, Curative control of brown ring patch on a <i>Poa annua</i> golf green in Chicago, 2009, Plant Disease Management Reports 5:T035, DACO: 10.2.3.3.
3602877	Bruce B. Clarke, Paul Vincelli, Paul Koch, Gregg Munshaw, 2020, Chemical Control of Turfgrass Diseases 2020, University of Kentucky, College of Agriculture, Food and Environment Cooperative Extension Service, Agriculture And Natural Resources, PPA. 2020 May;1, DACO: 10.2.4
3602886	Michigan State University, Fairy Ring, https://www.canr.msu.edu/ipm/diseases/fairy-ring/ , DACO: 10.2.2
3602929	2021, International Turfgrass Society Research Journal, Resistance to the demethylation-inhibiting fungicide propiconazole in Canadian populations of <i>Microdochium nivale</i> , Int Turfgrass Soc Res J. 2022;14:963-966, DACO: 10.5.3
3602931	2017, International Turfgrass Society Research Journal, Resistance to Dicarboximide Fungicides in a Canadian Population of <i>Microdochium nivale</i> , Int. Turfgrass Soc. Res. J. 13:133-138 (2017), DACO: 10.5.3

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