

## Prairie Pesticide Minor Use Consortium

To facilitate, coordinate and procure  
needed pest management solutions for grower organization members

### Prairie Pesticide Minor Use Consortium report for Alfalfa Seed Commission (Alberta) and Saskatchewan Alfalfa Seed Producers Development Commission

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Updates for 2019 are printed in green text.

Updates for 2020 are printed in blue text.

Updates for 2021 are printed in purple text.

Updates for 2022 are printed in orange text.

A number of alfalfa pesticide projects sponsored by Prairie Pesticide Minor Use Consortium (PPMUC), the Pest Management Centre (PMC) of Agriculture and AgriFood Canada (AAFC) and other agencies are in various stages of the regulatory process. The PMC moves all projects through a number of stages, from project initiation to labelled registration in this order:

- Project initiation
- Data generation
- Data generation (project on hold)
- Reporting phase
- Project complete (data requirements complete)
- Data with registrant for submission
- Project submitted to PMRA
- PMRA approved
- Use on label
- Project withdrawn

Projects may be put on hold because a specific issue needs to be addressed, which can include a Pest Management Regulatory Agency (PMRA) re-evaluation of a pesticide active ingredient. The PMRA evaluates human health and environmental risks for new active ingredients according to the accepted scientific standards of the day. However, science evolves and new information becomes available on a continual basis, and products must be re-evaluated periodically to ensure they meet current health and environmental risk assessment standards. In addition, at any point in this process, project support may be withdrawn by the registrant or as a result of a change from the original selected priority.

The following projects are active PPMUC projects. This list includes projects for alfalfa for forage and hay production since these products may also be used on alfalfa grown for seed.

#### *Insects*

- Assail® 70 WP (acetamiprid) for control of alfalfa weevil
  - ✓ Nisso and Belchim Crop Protection Canada proposed a 1-year Pre-Harvest Interval (PHI) for feeding forage, hay, cleaning plant residues and field “aftermath” to livestock
  - ✓ In the United States (US) there is a “Special Local Need” use with a 1-year PHI in several states, which works for producers due to the length of time:
    - Between the application of Assail® and the time that alfalfa seed is harvest
    - After alfalfa seed harvest to the first cutting for forage/hay the following season
    - Most crops in the US have a 3-7-day PHI following an application of Assail®
    - Clover has the longest PHI in the US at 30 days
  - ✓ Should there be a need to use Assail® for the control of synthetic pyrethroid resistant alfalfa weevils in the year of seed harvest in Canada, the seed could be stored for one year before cleaning. This would be required in order to adhere to the 1-year PHI should any seed cleaning residues be fed to livestock. Alternatively, the seed could be cleaned and the screenings saved for one year.
  - ✓ There may be options to deal with changes to the PHI in future; however, options are limited currently with the global risk cup for acetamiprid being full

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- ✓ Submitted August 2021 by PPMUC with the assistance of a data summary developed by Belchim R&D personnel
- boreGONE!™ 85 WDP (*Bacillus thuringiensis galleriae* strain SDS-502) for control of alfalfa weevil.
  - ✓ This is an A priority in the biological projects program and has been submitted to the PMRA
  - ✓ This project has been withdrawn by the registrant (BPR14-01)
- Lorsban® 452 NT (chlorpyrifos) for control of alfalfa weevil, for use before leafcutter bees are released into the field
  - ✓ The use pattern for alfalfa cancelled by the PMRA in 2021, and the product will be phased out
- Lambda-cyhalothrin resistant alfalfa weevil
  - ✓ An Emergency Use Registration (EUR) was examined as an option for 2017; however, was discounted as option because the criteria for an EUR could not be met
    - Two products are registered for control of alfalfa weevil in alfalfa, malathion and Imidan® (phosmet), both organophosphates (OPs) in Group 1B. There is no case for an emergency use if there are alternative products available.
    - The alfalfa weevils may be resistant to organophosphates as well – but there is no proof this is the case. Should the weevils be resistant to the OPs, Lorsban® 425NT (chlorpyrifos, Group 1B) would not work either.
    - Steward® EC (indoxacarb, Group 22) is not registered in Canada and is not available as an option for an emergency use. DuPont indicates that this active cannot be registered in Canada for regulatory reasons.
    - This leaves a product that only suppress alfalfa weevils, Coragen® (cyantraniliprole, Group 28), but it may be the best alternative
    - Success® 480SC (spinosad, Group 5) suppresses alfalfa weevils, but would be no more effective than Coragen, so there is no case for an EUR. This product would need to be registered on alfalfa in Canada first – and this is a potential research project.
    - Clutch™ 50WDG (clothianidin, Group 4A) is not registered on alfalfa and alfalfa weevil is not labeled (annual bluegrass weevil is labelled). This product would need to be registered on alfalfa and the pest would have to be added to the label. This is a potential research project.
    - Actara® (thiamethoxam, Group 4A) is not registered on alfalfa and alfalfa weevil is not labeled. This product would need to be registered on alfalfa and the pest would have to be added to the label. This is a potential research project.
  - ✓ ASC(A) and PPMUC are working in conjunction with Olds College and Farming Smarter to test a range of potential options for the control of resistant alfalfa weevil. Active ingredients tested include: Actara® 240 SC (thiamethoxam); Azatin® XL (azadirachtin); BotaniGard® ES, Mycotrol® ES (*Beauveria bassiana* GHA); Benevia®, Cyazypyr,™ Exirel™ (cyantraniliprole); Success™ (spinosad); and Sivanto™ 200SL (flupyradifurone).
  - ✓ Data sent by Farming Smarter to PPMUC and will be evaluated for options for submission in 2022

### Diseases

- Acapella® (picoxystrobin) for control of white mold
  - ✓ There may an option for registration in Canada due to its use in the US
  - ✓ Alfalfa seed growers would need to take the initiative to conduct initial screening trials
  - ✓ Control of the blossom blight complex, which includes white mold and black stem, is progressing through the Delaro™ A Priority
  - ✓ PPMUC will discontinue this project if there is no indication of grower support by April 30, 2022
- Astound® and Switch® 62.5WG (cyprodinil/fludioxonil) for control of white mold
  - ✓ There may an option for registration in Canada due to its use in the US
  - ✓ Alfalfa seed growers would need to take the initiative to conduct initial screening trials

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- ✓ Control of the blossom blight complex, which includes white mold and black stem, is progressing through the Delaro™ A Priority
- ✓ **PPMUC will discontinue this project if there is no indication of grower support by April 30, 2022**
- Delaro™ (prothioconazole/trifloxystrobin) for control of blossom blight (*Sclerotinia sclerotiorum* and *Botrytis cinerea*) in alfalfa for seed, forage and hay
  - ✓ This is an A priority
  - ✓ This project was been submitted in September 2018 for seed only
  - ✓ Labelled for use for seed production only
  - ✓ Approved by the PMRA, but not yet labelled for feeding of forage and hay to livestock
- Lance® WDG for feeding of forage and hay to livestock
  - ✓ Alfalfa is a representative crop for Crop Group 18, and will be used, along with bird's-foot trefoil to complete the residue requirements for Crop Group 18 for feeding forage and hay to livestock. Linked to project AAFC14-007 (bird's-foot trefoil)
- Proline® (prothioconazole) for control of spring black stem and *Sclerotinia*
  - ✓ Bayer CropScience will support this use
  - ✓ Proline® has been investigated in field tests with Quadris® (azoxystrobin)
  - ✓ There is a need to finish the Quadris® URMULE first before starting on Proline®
  - ✓ PPMUC needs to provide efficacy data
    - Some data has been generated
    - There may be a need to go to the provinces to ask for data or to generate data
    - There may be an option to contract a private company to conduct two more trials
    - There may be an option for ASC(A) to conduct these studies
  - ✓ Control of the blossom blight complex, which includes white mold and black stem, is progressing through the Delaro™ A Priority. Delaro™ includes Proline.®
  - ✓ **PPMUC will discontinue this project if there is no indication of grower support by April 30, 2022**
- Quadris® (flowable) (azoxystrobin) for control of white mold and black stem
  - ✓ This was moved to an A priority in 2016 based on the number of years the project has been in progress with no addition to the label
    - New active ingredients such as Delaro® (prothioconazole/trifloxystrobin, 175:150) will be tested in the screening trial. Older actives that have proven to be less effective on this pathogen complex will be dropped from the research trial.
  - ✓ Field trials were complete previously and data was being evaluated; however, the PMRA had objections. A history of this project up to the A priority being obtained in 2016 follows:
    - More data was required and they questioned if the application was being made at the correct time to control spring black stem.
    - Blossom blight is more appropriate description of the disease, which is caused by the same causal agent
    - PPMUC filed a response to these objections and changed the submission to blossom blight; however, Syngenta questioned the data due to confusion over the symptomology being rated in the trial
    - In response to these objections, Ken May prepared a summary of the data and changed the submission to blossom blight. This submission was sent to Syngenta for support; however, Syngenta questioned the data due to confusion over the symptomology being rated in the trial. Ken May sent his own version of the answers that would be required by Syngenta, but the company failed to respond to this email.
    - Ron Pidskalny developed a meta-summary of all of the data collected; however, there was no clear correlation between the product application and disease control

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- ✓ Control of the blossom blight complex, which includes white mold and black stem, is progressing through the Delaro™ A Priority
- ✓ **PPMUC will discontinue this project if there is no indication of grower support by April 30, 2022**
- Veltyma™ (mefentrifluconazole/pyraclostrobin) is being considered for disease control in alfalfa for seed production
  - ✓ Veltyma™ contains active ingredients with the same two groups of chemistry as Delaro™ (Groups 3 and 11)
  - ✓ Both products control Ascochyta blight (*Ascochyta pinodes*; *A. lentis*; *A. fabae*, *A. rabiei*, *A. pisi*), blossom blight (*Sclerotinia sclerotiorum*, *Botrytis cinerea*), gray leaf spot (*Cercospora zea-maydis*), Mycosphaerella blight (*Mycosphaerella pinodes*), powdery mildew (*Erysiphe graminis* or *E. polygoni*) and rust (*Puccinia graminis*, *P. polysora*, *P. sorghi*, *P. striiformis*, *P. tritricina* or *Uromyces appendiculatus*).
  - ✓ The Veltyma™ label has control of Anthracnose (*Colletotrichum lentis*, *C. lindemuthianum* or *C. truncatum*), blackleg (*Leptosphaeria maculans*), downy mildew (suppression only) (*Peronospora viciae* f. sp. *pisii*) and eyespot (*Kabatiella zea*, *Aureobasidium zea*), whereas Delaro does not.
  - ✓ The Delaro label has control of Ascochyta blight (*Ascochyta pisi*), Asian soybean rust (*Phakopsora pachyrhizi*), brown spot (*Septoria glycines*), charcoal rot (*Macrophomina phaseolina*), frog-eye leaf spot (*Cercospora soja*), Gray leaf spot (*Cercospora zea-maydis*), grey mold/chocolate spot (*Botrytis cinerea*), leaf spot (*Leptosphaerulina trifolii/briosiani*), Mycosphaerella blight (*Mycosphaerella pinodes*), northern leaf blight (*Exserohilum turcicum*, *Setosphaeria turcica*), Phomopsis stem blight (*Phomopsis longicolla*), powdery mildew (*Erysiphe graminis* or *E. polygoni*), rust (*Puccinia graminis*, *P. polysora*, *P. sorghi*, *P. striiformis*, *P. tritricina* or *Uromyces appendiculatus*), Septoria leaf blotch (*Septoria tritici*), spring black stem (*Phoma medicaginis*), tan spot (*Pyrenophora tritici-repentis*) and white mold/Sclerotinia stem rot (*Sclerotinia sclerotiorum* or *S. trifoliorum*), whereas Veltyma™ does not.
  - ✓ **PPMUC will discontinue this project if there is no indication of grower support by April 30, 2022**

### Weeds

- Authority® (sulfentrazone)
  - ✓ FMC has sufficient residue data for the addition of livestock feeding, possibly for forage and hay (Galina Radiva – February 1, 2016)
  - ✓ FMC would support this registration with additional data
  - ✓ Dr. Chris Neeser's reported from his field studies that there is a risk of significant damage when Authority 480 is applied to alfalfa seeded the previous year – and recommended pursuing an URMULE for dormant seed alfalfa which had been established for at least 16 months.
  - ✓ Brian Slenders and Brad Alexander will determine whether or not ASG(A) would like to move forward with this registration as it has been proposed by Dr. Chris Neeser.
  - ✓ Chad Skrove has taken over this project from Brian Slenders
  - ✓ Dr. Shabeg Briar, Olds College, has been working on gathering the phytotoxicity data in 2021. There was no issue with phytotoxicity. Data will be sent to PPMUC for review, forwarded to FMC for approval, and if approved, submitted in 2022.
  - ✓ This project has been submitted to the PMRA
- Authority® Supreme (pyroxasulfone/sulfentrazone)
  - ✓ There is sufficient data to make this submission for alfalfa with the same use patterns as submitted for Authority®
  - ✓ FMC is deciding on support for this registration, but is also requires the support of K-I Chemical U.S.A. Inc

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- Conquer® II (Aim + Koril) (bromoxynil + pyraflufen) for control of labelled weeds
  - ✓ This is an A priority (2019)
  - ✓ Submitted to the PMRA between June and August of 2019. This may be a submission for seed only. Submissions for forages tend to be split, with the first submission for seed use only and the second submission for forage and hay.
- Frontline™ XL (florasulam/MCPA ester) for control of labelled weeds and dandelion in alfalfa
  - ✓ This submission is tied to the PrePass™ Flex A priority and has been incorporated into use patterns for related products
- Heat® WG (saflufenacil) as a desiccant and for use pre-harvest for the control of labelled weeds
  - ✓ This is an A priority (13-022)
  - ✓ This project is in the reporting phase.
  - ✓ This project has been withdrawn
- Parlay® (trinexapac-ethyl) as a plant growth regulator
  - ✓ PPMUC is working in conjunction with Syngenta Canada Inc. and Brett Young Seeds to develop a submission for the use of this plant growth regulatory on forage legume crops grown for seed
  - ✓ PPMUC has prepared a data summary for submission which is being reviewed by Syngenta Canada Inc.
  - ✓ Syngenta continues to collect and review residue data for forage grasses for this submission
  - ✓ Syngenta has made no decision on the potential use of Parlay® on forage legumes
- PrePass™ Flex (florasulam) + MCPA ester
  - ✓ This is an A priority
  - ✓ The A Priority selected for 2014 was Frontline™ XL Herbicide (florasulam) + MCPA for the control of dandelion in alfalfa (AAFC14-049) – and data was generated to support this registration. However, Corteva has replaced Frontline™ XL Herbicide with PrePass™ Flex (florasulam 25% WDG, PCP 31259), with a similar use pattern for this project.
  - ✓ Dow also suggests that, if growers want the benefit of florasulam + MCPA then they will be able to tank mix PrePass™ Flex with the MCPA formulation that is registered on alfalfa (e.g., MCPA Ester 600). Therefore, a submission will be made to the PMRA for PrePass™ Flex Herbicide with a new project (AAFC18-070) and no submission will be made for Frontline XL (AAFC14-049). Corteva confirms that PrePass™ FLEX Herbicide is bioequivalent with Frontline™ XL Herbicide.
- Valtera® (flumioxazin) for control of labelled weeds (specifically kochia)
  - ✓ This is an A priority
  - ✓ This project is in the data generation and reporting phase for alfalfa for forage and hay
  - ✓ This project is labelled for use on alfalfa for seed, hay and forage