The Seed Head
Fact sheet # 24

Date:
Mar 2021

User Requested Minor Use Registrations of Herbicides on Turf and Forage Seed Crops

A note to clarify…

While minor use registrations of pesticides includes herbicides, insecticides and fungicides, for the purpose of this document the term 'herbicide' will be used. Minor use registrations on turf and forage seed crops are largely herbicide focused, though this process is applicable to all pesticides.

AAFC	Agriculture & Agri-food Canada
MUPO	Minor Use Procurement Officer
MUPP	Minor Use Pesticide Program
PMC	Pest Management Centre
PMRA	Pest Management Regulatory Agency
PMUC	Provincial Minor Use Coordinator
PPMUC	Prairie Pesticide Minor Use Consortium
SARDA	Smoky Applied Research and Demonstration Association
URMULE	User Requested Minor Use Label Expansion

Background

The production of high quality seed is a priority of both growers and seed companies in the turf and forage seed industry. The use of herbicides helps growers manage weeds which can reduce crop growth and seed quality. In Canada, herbicides are regulated by the federal government through Health Canada's Pest Management Regulatory Agency. Initial registration of a herbicide involves many steps including rigorous scientific evaluation to assess risk and value. Risk includes risk to human health and the environment. An overall determination of value includes an assessment of efficacy and crop tolerance. Weeds controlled by the product as well as the type of crops the product is registered on are outlined on the product label. But what happens if the turf or forage seed crop you would like to use the product on is not on the label?

Herbicides may not initially be marketed on certain crops if the crop is unique and/or has a limited production area, which is the case for many turf and forage seed crops. While registrants (i.e. companies who are registering the herbicide for use) may support expanding the use of their product on additional crops, they may not financially support the research required to scientifically evaluate the product for minor crop use. Enter the Minor Use Pesticide Program: a process intended to bring pest control products to minor crops. Through the program, the turf and forage seed industry can gain access to herbicides which may not have been available to them otherwise.

Process for obtaining a URMULE

The process for obtaining a URMULE requires a collaborative effort among a number of industry groups and government agencies (Table 1). Two separate processes (Figure 1) may be followed depending on whether the crop and product combination to be studied requires *only* crop tolerance and efficacy data, or requires tolerance *and* feeding residue data (residue data are used to set the Maximum Residue Limit for the active ingredient in the herbicide). Residue data are required for a forage seed crop group and/or specific forage seed crop if aftermath (e.g. all material left in the field after harvest, including chaff and stalk material, as well as seed screenings from cleaning operations) will be fed to livestock. Note that while these are the general steps to obtaining a URMULE, a streamlined process is available for crop and herbicide combinations registered outside of Canada within a jurisdiction with similar pesticide regulatory processes (e.g. the United States). There are also alternate means of data presentation if the active ingredient of a product is already registered for use on a crop or crop group, or if data have been collected across a crop group (e.g. one active ingredient trialed on a number of grassy forage crops). In these situations, a well-written rationale alongside support from the registrant can help justify the application for a URMULE.

The Seed Head
is published by the
Peace Region Forage Seed Association
more Seed Head fact sheets available soon on our website
www.peaceforageseed.ca

Table 1. Key players and their role during a URMULE

Key Player	Main Role
Growers, seed companies and agronomists	Provide information on what current and emerging weed control issues where forage seed crops may warrant the prioritization of a herbicide for a URMULE.
Forage seed commissions (e.g. PRFSA)	Regularly communicate with industry players throughout Western Canada in order to determine priority needs for weed control and products for a URMULE; secure funding for and coordinate trials (in-house, outsourced to research organizations or through advocating via the MUPO, PPMUC and PMUC at the annual minor use priority setting meeting); communicate with the PPMUC regarding potential URMULEs (annual membership to the PPMUC required).
Herbicide registrants	Provide knowledge and support to forage seed commissions, the PPMUC, PMRA and PMC during the URMULE process; provide documents (e.g. letter of support, draft label) and previous research required for the URMULE.
Research organizations	Provide the expertise, equipment and facilities to conduct tolerance and residue trials for the URMULE. In the Peace Region, this role is often undertaken by SARDA or AAFC Beaverlodge.
PPMUC	Facilitates pest management product registrations through the development of data packages to be provided to the PMRA; the MUPO represents members of the PPMUC and works with industry groups, registrants, the PMUC, PMC and PMRA.
Provincial minor use coordinator	Facilitates communication between the forage seed commissions, PPMUC, PMC and PMRA. Advocates for minor use priorities at the priority setting meeting held annually in March.
Health Canada's PMRA	Administer the MUPP; review and provide approvals for URMULEs.

Product eligibility (URMULE requirements)

- The product must already be registered for use in Canada on at least one other crop.
- The registrant must be willing to support the addition of a new crop to the product label (pending approval of crop tolerance and efficacy data)
- Once the first two conditions are met, the process can move forward (Figure 1); there must be sufficient trial data showing acceptable crop tolerance and, if applicable, feed residue data.

Other eligibility/product considerations

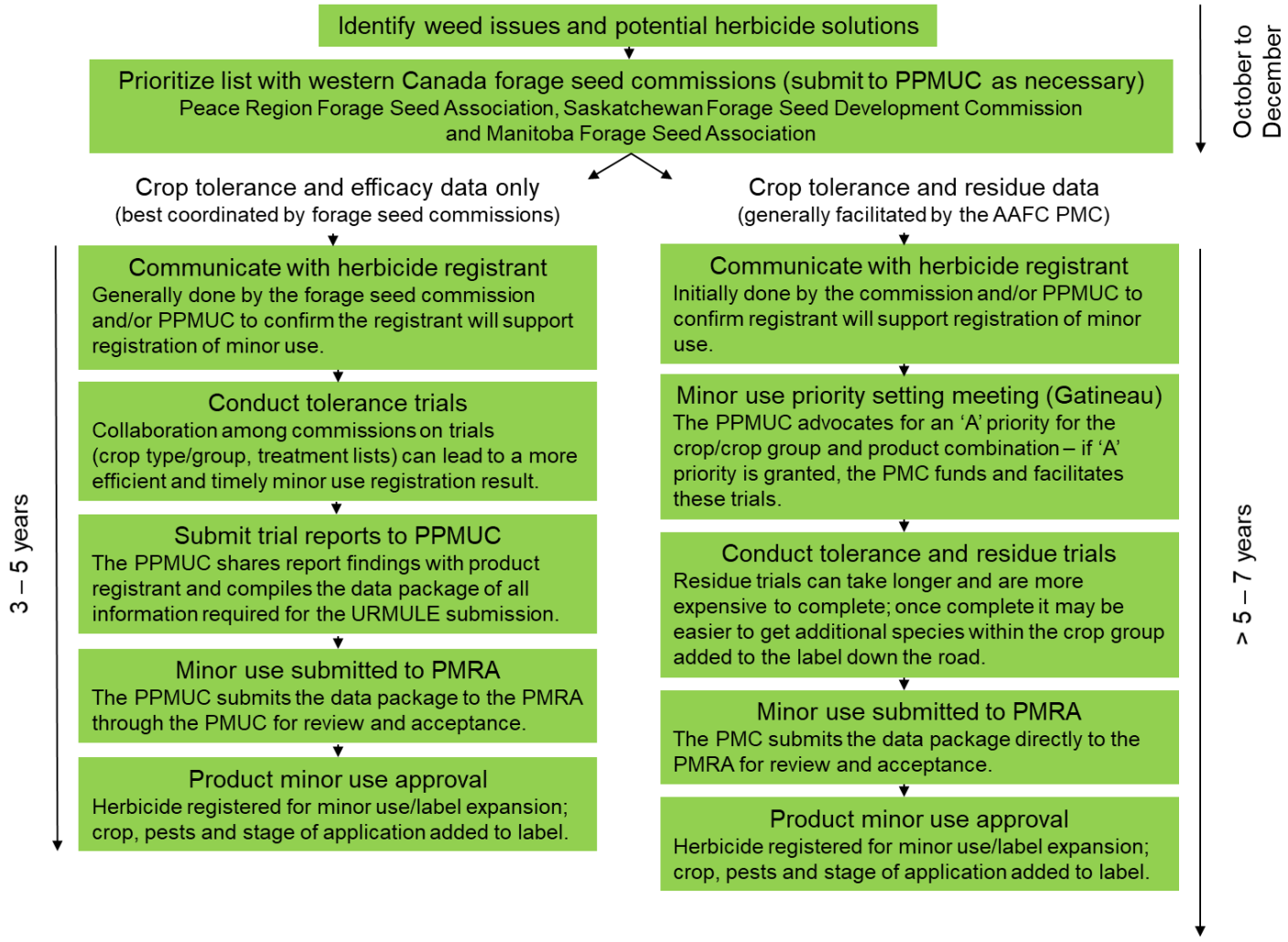
- Is the product registered for use on turf and forage seed crops outside of Canada?
- Can a rationale be established without the need to carry out field trials? This is largely dependent on registrant acceptance of the rationale and scope of previous assessments on additional crops in a crop group. The rationale must also be accepted by the PMRA.

URMULE labels

Growers should note that URMULE program label statements have been, or are in the process of being updated. The currently approved wording is shown to the right. Should you have regulatory questions about forage seed production URMULEs and are a member of the Peace Region Forage Seed Association, please direct your questions to the Minor Use Procurement Officer, Prairie Pesticide Minor Use Consortium.

The DIRECTIONS FOR USE for the uses described in this section of the label were developed by persons other than [registrant name] under the User Requested Minor Use Label Expansion program. For these uses, [Registrant name] has not fully assessed performance (efficacy) and/or crop tolerance (phytotoxicity) under all environmental conditions or for all crop varieties when used in accordance with the label. The user should test the product on a small area first, under local conditions and using standard practices, to confirm the product is suitable for widespread application.

Figure 1. Turf and Forage Seed Herbicide Minor Use Process



What can you do?

Speak up! Let your local agronomist and forage seed association know what pest issues you are seeing and which ones you have had trouble controlling with the current products available. Given the URMULE process can take up to seven years, the sooner this discussion gets started, the better. The PRFSA has been involved in successful URMULEs over the past 25 years.

A brief overview of herbicide tolerance trials

Herbicide tolerance trials are undertaken using scientific methodology so that statistics can be performed and results can be analyzed for significance. For herbicide tolerance trials, a randomized complete block (RCB) design with four replications is used. Trials can be undertaken pre-seed, at the seedling stage and on established stands. General herbicide application rates and data observations are outlined in Table 2. All trials should include a check (untreated area or control) and, ideally, a weed-free check. For pre-seed trials, a glyphosate-only treatment should also be included.

Generally, six site-years per species are acceptable for the collection of trial data. If trials have been undertaken on a number of forage grasses for a specific herbicide, it may be acceptable to present summarized data from a crop group as opposed to data from each individual crop, thus decreasing the site-years and resources required to register the product across a larger group of forage crops. A solid rationale is required to use this approach. Crop tolerance data are still required for each individual crop.

Table 2. Herbicide tolerance trial information

Trial	Herbicide application	Observations and data collection
Pre-seed	1x and 2x registered annual crop rate applied a few days prior to seeding (and post seeding/prior to emergence, if possible).	Visual percent stand reduction (3-4 times in application year) Visual crop tolerance rating (3-4 times in application year) Visual crop tolerance rating (year after application) Seed yield (year after application) Forage yield (year after application; not always collected)
Seedling	1x and 2x registered annual crop rate applied at the 2-4 leaf stage (grass) or 1-3 trifoliate stage (legume).	See above (same observations and data collection as for the pre-seed trial)
Established stand	1x and 2x registered annual crop rate applied to an established grass or legume seed stand.	Visual crop tolerance rating (7-14 days after treatment (DAT), 21-28 DAT and just prior to harvest) Seed yield, seed germination and 1000 seed weight

Summary

- User Requested Minor Use Registrations play a significant role in expanding the list of herbicides available for use on turf and forage seed crops.
- Obtaining a URMULE is a collaborative effort among turf and forage seed industry players, pest management players and government agencies.
- The URMULE process can take 3 to 7 years and can be more complex, costly and time consuming if residue data are required.
- Crop tolerance trials can be facilitated and coordinated by forage seed commissions and the PPMUC whereas products which require residue trials generally must obtain a priority place at the federal level and are facilitated by the PMC.
- PMRA and product registrant approvals are key to obtaining a URMULE; the collection of sufficient trial and other data and/or a solid rationale for minor use registration are essential to gaining these approvals.

Further reading

Government of Alberta, 2021, User Requested Minor Use Label Expansion https://www.alberta.ca/user-requested-minor-use-label-expansion.aspx,

Government of Canada, 2021, https://www.agr.gc.ca/eng/scientific-collaboration-and-research-in-agriculture/agriculture-and-agri-food-research-centres-and-collections/pest-management-centre/minor-use-pesticides-at-the-pest-management-centre/minor-use-pesticides/?id=1534462314621

Herbicide tolerance trial plots on established timothy in Sunset House, Alberta (2020)

Compiled & Circulated by: Calvin Yoder, Talon Gauthier and Shelley Kirk in Mar 2021.
Funded by: all the forage seed levy paying growers in Alberta and British Columbia and matching funds from Agriculture & Agri-Foods Canada (AAFC) through the *Canadian Agricultural Partnership* (CAP) - AgriScience Program - Projects Component.