

# Planning for Alfalfa Pests in 2022

*Eric Schultz, BASF*

The spring green-up and regrowth of alfalfa in the Upper Midwest has finally brought some of the first color to the countryside. It is early, and early is the perfect time to ensure crop protection plans are in place for alfalfa acres. Whether it is an established stand or a newly seeded stand, the management of weed, insect, and disease pests can help ward off losses and ensure alfalfa farmers can get more out of every acre. To do this, typically there has been flexibility in product availability and no substantial issues of supply for herbicides, insecticides, and fungicides. That is not necessarily a guarantee for this year – an additional driver to plan and secure now for what needs there may be. Below is an abbreviated guide for pest management and planning.



Alfalfa - wild mustard, dandelion, pennycress weed control - untreated on the left, Raptor 5.0 fl oz + MSO + AMS on the right.

**Weeds.** Managing weeds begins with the stand. Vigorous forage plants are excellent competitors with weeds. By maintaining a dense, healthy stand of alfalfa, many weed problems can be alleviated or in some cases even eliminated. As opportunistic as weeds are, they will find somewhere to emerge and grow within forages. Weed control requirement is determined by the weed species, competitiveness, time of year, and potential toxicity concerns when feeding. In seedling or established alfalfa, the primary herbicide Mode of Action Groups utilized include Group 1, Group 2, Group 3, and Group 9.

**Group 1** herbicides control grass weed species, such as the foxtail species and barnyardgrass. Herbicide active ingredients for Group 1 include clethodim (multiple brands) and sethoxydim. Both require a crop oil concentrate adjuvant for optimal weed control.

**Group 2** herbicides, or the ALS Inhibitors, include the active ingredients imazethapyr (Pursuit® herbicide) and imazamox (Raptor® herbicide). These products have activity on a wide spectrum of grass and broadleaf weed species. They can control not only emerged grass and broadleaf weeds, but also offer residual control of grass and broadleaf weeds. There are differences in their performance; for example, Pursuit has higher activity on dandelions while Raptor has greater activity on grass species. Each herbicide requires an oil adjuvant (crop oil concentrate or methylated seed oil).

**Group 3** herbicides, or Microtubule Inhibitors, include pendimethalin (such as Prowl® H2O). This is an important herbicide active ingredient as a residual option for grass control and for small-seeded broadleaf control. Small-seeded broadleaves would include pigweed species such as redroot pigweed and waterhemp. Another Group 3 herbicide, trifluralin, is an additional option for early season residual weed control requiring incorporation.

**Group 9** includes glyphosate and any glyphosate-containing products for use in Roundup Ready® alfalfa only. Glyphosate controls most winter and summer annual weeds associated with alfalfa and can also suppress or control additional perennial weeds. Glyphosate does not offer any residual weed control, thus, tankmixing a residual herbicide would be required for longer-term weed control.

With any herbicide applied for controlling emerged weeds in alfalfa, targeting smaller weeds and applying as early as possible will go a long way towards optimizing performance. Herbicide applications should be applied early based on label requirements while also being ahead of vigorous regrowth of alfalfa. For example, Pursuit and Raptor herbicides perform best if applications occur before 3" of regrowth.

Keep in mind there are herbicides in Mode of Action Groups 4, 5, and 14 that also have a fit in alfalfa weed management and could offer solutions for specific weeds.

**Insects.** Controlling insect pressure in alfalfa is vital for protection of leaf tissue leading to greater vigorous growth and foliage. There are piercing-sucking insects (pea aphids, spotted alfalfa aphids, cowpea aphids, and leafhoppers) and chewing insects (alfalfa weevil, grasshoppers, and alfalfa caterpillar) which may impact alfalfa crops. The greatest differentiator in insects is the time of year when they are most likely to do damage and when they should be scouted for. Typically, alfalfa weevil and pea aphids impact the first or second crops while leafhoppers, caterpillars, and other aphid species impact the second or third crops. There are plenty of opportunities for insects to thrive throughout cuttings and throughout the growing season. Later-season

damage may come from a variety of pests and is important to monitor in order to reduce overwintering and provide a healthy start to next year's crop.

Probably the most important development for insect management in alfalfa for 2022 is the Environmental Protection Agency's revocation of all tolerances for the broad-spectrum insecticide active ingredient, chlorpyrifos. These tolerances enabled applications and without them, chlorpyrifos is no longer an option. This includes all insecticides that are either only chlorpyrifos or include an additional active ingredient with chlorpyrifos (for example, chlorpyrifos + lambda-cyhalothrin). Without chlorpyrifos, it is imperative to plan for alternative insecticide active ingredients to manage any insect issues that arise.

In general, pyrethroid insecticides represent a suitable alternative to chlorpyrifos. Pyrethroid insecticides are a broad-spectrum solution for insect pests and offer activity on most alfalfa pests in the Upper Midwest (alfalfa caterpillars, pea aphids, spotted alfalfa aphids, leafhoppers, grasshoppers, and alfalfa weevils). This insecticide class is large with a number of active ingredients (alpha-cypermethrin, lambda-cyhalothrin, zeta-cypermethrin, etc.). Additionally, they have differing use rates, timings, and preharvest intervals.

An alternative to pyrethroid insecticides for control of aphids in alfalfa is a new insecticide with the active ingredient afidopyropen. This active ingredient is only available as Sefina® insecticide. Sefina not only controls all aphid species (pea, cowpea, spotted alfalfa) but also does not harm any beneficial insects already thriving in alfalfa fields. It also does not pose a threat to honeybees.

To optimize your return on investment, insecticides should only be used after sufficient scouting for alfalfa insect pests and in conjunction with an economic threshold for basis of application.

**Diseases.** Like insect management, disease management primarily represents a method of protecting leaf tissue for alfalfa plants. An alfalfa regrowing crop is primarily susceptible in the crown region, stem, and lower crop canopy. These areas represent ideal locations to focus on protecting and to monitor for diseases. Typical diseases in the Upper Midwest include common leaf spot, lepto leaf spot, spring black stem, and white mold. These diseases can be sporadic, but when present can chip away at the productivity of alfalfa acres, especially plant vigor and dry hay tonnage. Primary alfalfa fungicide active ingredients utilized include pyraclostrobin, azoxystrobin, boscalid, and fluxapyroxad.

Young regrowth is most susceptible to above diseases and benefits the most from the protection of fungicides. For fungicide active ingredients like pyraclostrobin (Headline®) and pyraclostrobin + fluxapyroxad (Priaxor®), the best use pattern is to apply full rates on 6-8" of regrowth. This can be either after spring green-up or regrowth after a cutting. The most optimal times to apply fungicides for the highest return on investment has been proven to be prior to the first cutting (13.5% dry matter yield increase\*) and/or prior to the second cutting (18.6% dry matter yield increase\*). In both cases, early disease control protects the ability of the plant to continue growing optimally and produce greater yields. Historically, the disease control provided by pyraclostrobin-containing fungicides has not only been shown to enhance yield, but results in improved stand counts, better winter survival, and increased stand longevity as well.

Fungicide use for disease management can certainly be effective, but there are also many other factors to consider for alfalfa diseases. Planting a variety that has a higher disease tolerance and is well-adapted to an area are two of those factors. Also included are cultural practices such as residue management, optimal planting dates, and crop rotation. By considering each one of these factors, diseases become an easier pest to manage.

This article is not a complete listing of herbicide, insecticide, or fungicide options for alfalfa; but it hopefully provides you assistance as a base for planning and securing any crop protection product needed for pest management.

\*Improving your alfalfa yield with Headline fungicide, May 2014 Forage Focus article.

**Always read and follow all label directions including timing of applications, use rates, and preharvest intervals.** Roundup Ready is a registered trademark of Bayer CropScience. Pursuit, Raptor, Prowl, Sefina, Headline, and Priaxor are registered trademarks of BASF Corporation.



Alfalfa spring black stem control Priaxor 4.0 fl oz 55 days after application.



Alfalfa spring black stem untreated