

Herbicides for Spring Weed Control in Alfalfa — Dwight Lingenfelter and Bill Curran, Penn State Weed Science

It's time to check the need for weed control. Keep in mind all of these herbicides are labeled for use in pure—stand alfalfa. However, only metribuzin and Pursuit can be applied to **established** alfalfa-grass mixes. Here are a few guidelines about available products: Gramoxone Inteon 2L (paraquat) — May be applied at 2 to 3 pt/A to established “dormant” stands before 2 inches of spring regrowth. The weeds must be actively growing at the time of application. Gramoxone is also labeled at 1 to 2 pt/A for dormant application on new fall seeded stands. Gramoxone will desiccate any green tissue including actively growing alfalfa. Be especially cautious with new fall seedings. Gramoxone is effective on low to moderate infestations of winter annuals including chickweed, henbit, deadnettle, and mustard species. If winter annual weed infestations are severe, consider one of the soil active alternatives. Do not use on mixed stands.

Poast Plus 1E (sethoxydim) — Poast Plus controls annual grasses and suppresses perennial grasses in seedling and established alfalfa. Apply Poast Plus at 1.5 to 2.5 pt/A to actively growing grassy weeds. Poast Plus should be applied to small grasses and performance improves with warmer temperatures. Do not use on mixed stands. Prowl H₂O 3.8CS — has a supplemental label for use in seedling and established alfalfa. For seedling alfalfa (2-trifoliolate to six inches tall), apply Prowl H₂O at 1.1 to 2.1 **pints** pt/A *prior to weed emergence*. For established stands (i.e., alfalfa that was planted in fall or spring and has gone through a first cutting/mowing), apply 1.1 to 4.2 **quarts/A** *prior to weed emergence*. Applications can be made in the fall after the last cutting, during winter dormancy, or in the spring before alfalfa reaches 6 inches of regrowth and weeds have germinated. Prowl H₂O will control many annual grasses and broadleaves including crabgrass, panicums, foxtails, lambsquarters, pigweed at the 1 to 4 pt rate. Other weeds such as annual bluegrass, common chickweed, dodder, henbit, prostrate knotweed, smartweed, and velvetleaf can be controlled with the 2 to 4 qt rate. Some stunting and yellowing to the alfalfa may occur after application. Do not harvest alfalfa less than 28 days after applying ≤2.1 quarts/A, or less than 50 days if >2.1 quarts/A. **Only Prowl H₂O has this supplemental label for use in alfalfa, NOT Prowl 3.3EC.**

Pursuit 70DG (imazethapyr) — Pursuit may be used for weed control in seedling (2 trifoliolates or larger) or established alfalfa. Apply Pursuit at 1.08 to 2.16 oz/A plus adjuvants to actively growing weeds 1 to 3 inches in height. Pursuit performance improves with warmer temperatures. If spraying during extended cold periods, expect weeds to respond slower or the herbicide can have reduced activity. Pursuit is effective on many winter annual broadleaves including small chickweed. Pursuit may be used on established alfalfa-grass mixtures.

Raptor 1AS (imazamox) — Raptor may be used for weed control in seedling or established alfalfa. Apply Raptor at 4 to 6 fl oz/A plus adjuvants to small, actively growing weeds and to established alfalfa in the fall or in the spring. Any application should be made before significant alfalfa growth or regrowth (3 inches) to allow Raptor to reach the target weeds.

Like Pursuit, Raptor performance is influenced by temperature. Therefore, try to apply the herbicide on warmer days and when weeds are actively growing. Raptor has a similar spectrum of winter annual weed control as Pursuit. Do not use on mixed stands.

Select 2EC (clethodim) — Apply Select at 6 to 8 fl oz to actively growing grasses that are less than 6 inches tall. Rates up to 16 fl oz may be used to control larger grasses, annual bluegrass or perennials such as quackgrass. Include a crop oil concentrate in the spray mixture. May be tank-mixed with Pursuit, Buctril, or 2,4-DB for broadleaf weed control. Do not use on mixed stands.

Sinbar 80W (terbacil) — May be applied to established alfalfa at up to 1.5 lb/A or to a new fall seeding at 0.33 to 0.5 lb/A. The reduced rate seedling year application is specifically aimed at chickweed. Sinbar is effective on a number of annual broadleaves and some grasses at the higher rates. Apply to 'dormant' alfalfa before 2 inches of spring regrowth. Do not use on mixed stands.

Metribuzin 75DF (formerly Sencor) — May be used on established alfalfa. Apply 0.5 to 1 lb/A before spring regrowth. Impregnation on dry fertilizer can improve crop safety and allow for slightly later applications (up to 3 inches spring regrowth). Sencor controls winter annual broadleaves and grasses (higher rates for grass control). May be used on mixed alfalfa-grass stands. Higher rates can potentially cause a reduction in grass stand.

Velpar 2L (hexazinone) — Apply Velpar to established alfalfa at 2 to 6 pt/A during the dormant period before 2 inches of spring regrowth. Velpar is effective on annual broadleaves and grasses. Velpar is the most effective dormant season treatment for suppression of dandelion and dock species (higher rates for grasses and perennial suppression). Do not use on mixed stands.

Your best bet when controlling...

- Chickweed — Gramoxone Inteon, Pursuit, Raptor, Metribuzin, Velpar
- Annual bluegrass — Gramoxone Inteon
- Henbit/deadnettle — Gramoxone Inteon, Metribuzin, Velpar
- Yellow rocket — Pursuit, Raptor, Metribuzin, Velpar
- Dandelion — Velpar (suppression) or Pursuit (early spring is better)
- Curly dock (suppression) — Pursuit or Raptor (early spring is better)
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Consider Air Temperature and Other Environmental Conditions When Making Burndown Applications — Bill Curran, Penn State Weed Science

With the dry spring weather we are experiencing, some farmers and applicators are considering entering fields and spraying perhaps earlier than normal. Remember that the activity of all foliar applied herbicides is dependent on air temperature as well as other variables. If you are trying to kill a cover crop or even winter annual weeds, susceptibility of the target species and environmental conditions (temperature, moisture, sunlight, etc.) play a role in the effectiveness of the treatment.

The University of Illinois conducted a field study back in 2002 that **compared glyphosate, paraquat (Gramoxone), and paraquat plus metribuzin (Sencor) for their performance under challenging spring conditions.** The herbicides were applied at six different timings in the spring based on daytime high air temperatures ranging from 47 F to 87 F. Common

chickweed and henbit were present in the study. Overall, temperature had no effect on chickweed control with glyphosate or with paraquat plus metribuzin and both provided 90% control or better regardless of air temperature. However, control increased from about 70% at 47 F to about 90% at 75 F with the paraquat alone treatment. In contrast, henbit control was less than 80% with all herbicides until applications were made when daytime high air temperatures were above 75 F. In fact, control with glyphosate and paraquat was less than 50% at temperatures up to 75 F. The paraquat plus metribuzin treatment was somewhat better providing close to 80% control at 75 F. This study is a nice example of how not only temperature plays a role in foliar herbicide activity, but also target species and how a soil residual herbicide like metribuzin (or atrazine) can increase effectiveness, especially with a product like paraquat. Temperature had little influence on common chickweed control with glyphosate; however, application temperature significantly affected glyphosate activity on henbit. Also consider herbicide rates, overcast conditions at application, adding AMS and other appropriate adjuvants to the spray tank, tip selection and gallonage for better spray coverage, etc. when making spring applications under less than ideal conditions.