



Alfalfa Weed Management

What You'll Learn...

- Weed management is a critical component of alfalfa production.
- Weeds compete with alfalfa for water, nutrients, space and sunlight, which can reduce forage yield and quality and shorten the stand life.
- Managing weeds in alfalfa is important prior to planting, in the seedling year, and in established stands.



Prior to Planting

Weed management should begin the year before seeding alfalfa to help ensure a long-lasting and productive stand. It is particularly important to control perennial weeds prior to seeding because they can be more difficult to manage in an established stand. Effectively managing weeds in the crop preceding alfalfa with cultural and/or chemical weed control techniques is important. A Roundup® brand glyphosate-only agricultural herbicide in tank mixture with dicamba or 2,4-D applied in the fall after harvest of an annual crop can provide effective control of perennial weeds. Always read herbicide product labels and follow replant restriction time intervals before seeding alfalfa to prevent herbicide carryover injury.

Seedling Year

Weeds can have their greatest impact during the seedling year of alfalfa. Failure of crop establishment can occur if competition from weeds is high. The type of weed and pressure can vary with the timing of alfalfa seeding. In northern areas, spring seeding is generally preferred due to a greater chance of successful stand establishment. In southern areas, late-summer or early fall seeding is generally preferred because of the opportunity to establish alfalfa after growing another crop. Summer annual weeds can cause problems in spring seedings, and winter annual weeds in late-summer or fall seedings.

Tillage can be an important part of weed management in the seedling year. Tillage can uproot existing annual weeds and help to set back established perennial weeds. It is also important to have a good

seedbed that is free of weeds when seeding to give alfalfa a head start on weed growth. EPTC, benefin, or trifluralin can be applied preplant incorporated (PPI) for the control of annual weeds.

Bromoxynil or 2,4-DB can be used postemergence (POST) in seedling alfalfa to control many broadleaf weeds. Sethoxydim or clethodim can be used POST to control annual grasses and suppress perennial grasses. Imazethapyr or imazamox can be applied POST to control many annual grass and broadleaf weeds and suppress some perennial weeds. Glyphosate can be used POST in seedling Genuity® Roundup Ready® Alfalfa for broad-spectrum weed control. Follow the recommendations on herbicide product labels for application timing relating to size of weeds for best control and stage of alfalfa growth.

Alfalfa can be direct seeded with no companion crop or with a companion crop such as oats. A companion crop can help control erosion and minimize weed competition during establishment. A companion crop is usually only used with spring seedings. Moisture can be limited with summer and fall seedings and competition from the companion crop could limit alfalfa seedling establishment. Direct seeding benefits while controlling erosion could be obtained by killing the companion crop when it is 4 to 6 inches tall with sethoxydim or clethodim, or with glyphosate in Genuity Roundup Ready Alfalfa.

Harvest schedule in the seedling year can also impact weed management in alfalfa. Harvesting the first cutting 60 days after germination, regardless of the maturity stage, can help to eliminate many annual weeds.



Alfalfa Weed Management (continued)

Established Stand

Once a healthy alfalfa stand is established, problems associated with weeds can become less because the alfalfa becomes more competitive. However, weeds can become a problem in established stands because of poor soil fertility, improper irrigation or harvest management, disease and insect pressure, or winter kill of alfalfa. There are many herbicides that can be used in established alfalfa. Selective soil-residual herbicides can be applied in the late fall or early spring to dormant alfalfa. Non-selective herbicides such as glyphosate can be used in Genuity® Roundup Ready® Alfalfa, and paraquat can be used in dormant alfalfa.

Cultural practices in established alfalfa such as cutting frequency and irrigation timing can influence weed populations. Shorter cutting cycles or irrigation immediately after harvest can favor annual weed growth.

The objective of weed management in established stands should be to preserve or improve the level of control achieved prior to planting and in the seedling year. Weeds can reduce the quality of forage in established stands of alfalfa and are generally the main reason that alfalfa fields are taken out of production. Therefore, continuing weed management practices in established alfalfa helps to improve forage quality and extend the life of the stand.

Sources:

Undersander, D., Cosgrove, D., Cullen, E., Grau, C., Rice, M., Renz, M., Sheaffer, C., Shewmaker, G., and Sulc, M. 2011. Alfalfa management guide. ASA/CSSA/SSSA publication. <http://www.agronomy.org>.
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 Web sites verified 8/1/16. 160126135601

For additional information, contact your local seed representative. Developed in partnership with Technology Development & Agronomy by Monsanto.

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Table 1. Herbicides for weed management in alfalfa.

Herbicide	Prior to Planting	Seedling Year	Established Stand
Balan® (benefin)	X ¹		
Buctril® (bromoxynil)		X ³	
Butyrac® (2,4-DB)		X ³	X ³
Chateau® (flumioxazin)			X ^{2,5}
Eptam® (EPTC)	X ¹		
Gramoxone Inteon® (paraquat)	X ³	X ⁵	X ^{4,5}
Karmex® (diuron)			X ⁴
Kerb® (pronamide)		X ³	X ^{3,4}
MCPA			X ⁴
Poast® (sethoxydim)		X ³	X ³
Prowl® H ₂ O (pendimethalin)		X ³	X ^{2,5}
Pursuit® (imazethapyr)		X ³	X ^{3,5}
Raptor® (imazamox)		X ³	X ^{3,5}
Roundup® brand glyphosate-only agricultural herbicides	X ³	X ⁶	X ⁶
Select Max® (clethodim)		X ³	X ³
Sencor® (metribuzin)			X ^{3,4}
Sinbar® (terbacil)			X ⁴
Solicam® (norflurazon)			X ²
Treflan® (trifluralin)	X ¹		
Velpar® (hexazinone)			X ^{3,4}

¹ PPI; ² PRE; ³ POST; ⁴ POST dormant alfalfa; ⁵ POST immediately after cutting; ⁶ POST Genuity® Roundup Ready® Alfalfa only.