

10 Reasons to Plant Alfalfa-Grass Mixture for Hay

Marisol Berti, North Dakota State University

Farmers planning to establish a hay crop next spring should consider mixing some grass with alfalfa. While pure alfalfa offers advantages, alfalfa-grass mixtures can actually be the best choice for a more balanced diet for your cows.

Why Plant Alfalfa-Grass Mixtures?

1. Forage yield is often greater in alfalfa-grass mixtures than in pure alfalfa. Yield is higher in the seeding year and in later years if alfalfa has been winterkilled or winter-injured.
2. In wet springs and summers it is easier to drive equipment in the field. Sod-forming grasses such as smooth brome and reed canarygrass better enable field traffic. Alfalfa-grass mixtures also tolerate manure application better.
3. Alfalfa-grass mixtures dry out more rapidly than pure alfalfa, creating less damage if rained on before baling. Mixture swaths are fluffier and air circulates better, drying the hay faster.
4. Alfalfa plants in alfalfa-grass mixtures are less susceptible to winterkill and the life-span is likely to be longer. Grass roots will prevent crown heaving during freezing and thawing cycle. Also, grass residue in fall will catch more snow, providing better insulation for the alfalfa crown.
5. Grasses will grow well in areas where alfalfa does not (e.g., low wet spots, high salinity areas, field borders).
6. Grasses have less protein than alfalfa, but higher NDF content, fiber digestibility, and palatability.
7. Alfalfa provides nitrogen to grass as alfalfa nodules slough off and nitrogen mineralizes becoming available to the grass. Grass pastures usually require 80 lbs N/acre. A grass-alfalfa mixture does not need nitrogen fertilizer. Recent studies have demonstrated alfalfa is more efficient fixing nitrogen when intercropped with a grass. Grass depletes the soil from available nitrogen, enhancing nitrogen fixation.
8. If grazed, alfalfa-grass mixtures create less risk of bloat compared to pure alfalfa stands.
9. Mixtures improve perennial weed suppression.
10. Grasses establish faster than alfalfa seedlings providing soil erosion control.

Many cool-season grasses can be planted in mixture with alfalfa. The best choice will depend on winterhardiness, yield potential, disease resistance, and seasonal distribution of the forage. Select grasses with tested winterhardiness for your area.

Grass Species	Pros	Cons
Smooth Brome	Very winterhardy, Sod-forming (rhizomatous), Speeds drying, High spring yields	Most yield in first cut, Limited fall growth
Meadow Brome	Very winterhardy, Better forage quality & seasonal distribution than smooth brome, High regrowth capacity, Drought tolerance, High forage quality	Low tolerance to grazing, Slow establishment
Reed Canarygrass	Very winterhardy, High yield when established, Speeds drying rate, Sod-forming grass (rhizomatous)	Highly competitive, Can dominate older stands, Low forage quality if harvested after heading
Orchardgrass	Very rapid and good regrowth, Good seasonal distribution of forage, Excellent forage quality	Susceptible to winter injury, Low persistence, Difficult to dry, Some varieties highly susceptible to rust
Tall Fescue	High yield, Good seasonal distribution and fall regrowth, Endophyte-free varieties available, High forage quality	Susceptible to winter injury, Difficult to dry, Some varieties highly susceptible to rust
Timothy	Very winterhardy, High spring yield.	Most yield in first cut, Limited fall growth, Heads are hard to dry and can get moldy in the bale
Perennial Ryegrass	High yield and forage quality	Susceptible to winter injury
Intermediate Wheatgrass	Very winterhardy, High spring yield, Sod-forming grass (rhizomatous), High palatability, Drought tolerant	Most yield in first cut, Limited fall growth
Tall Wheatgrass	Very winterhardy, Drought and salinity tolerant	Highly competitive, Low forage quality after heading, Coarse stems
Crested Wheatgrass	Very winterhardy, Early forage production, Easy establishment, High forage quality	Not very competitive with alfalfa

Note: Resistant varieties may be available to some of the drawbacks noted in the chart.