

LEGUME NITROGEN CREDITS

Nitrogen Credits for Subsequent Crop lb N/acre		
Alfalfa	> 80% stand	100 – 140
	60 – 80% stand	60 – 100
	0 – 60% stand	0 – 60
Sweet and red clover		80% of alfalfa credit
Dry beans		20
Soybeans		45
Sugar beets*		50

* not a legume, credit included due to N released from incorporate beet tops



DESCRIPTION

Legume crops can be a very significant source of plant available N due to bacterial N₂ fixation in root nodules. A full stand of alfalfa will release at least 100 pounds of N per acre in the first year after termination. The credits in the table provided are relatively conservative and some producers may see more N released than shown. A soil test will not reflect the N that will be released from the high N residue later in the year. The amount of N credit given for legumes depends upon the crop, stand, and degree of nodulation. A minimum of 30 lbs. N/acre should be credited in the first year after any legume crop.

BEST MANAGEMENT PRACTICES

- Nitrogen (N) credits from legumes are part of the *Right Rate* in 4R nutrient management.
- Alfalfa, clovers, soybeans and dry beans can contribute all or part of the N needs of the following crop.
- Legume residue has a high N content that will be release in the following cropping season.
- Ignoring N from a previous legume crop may result in over-fertilization.
- A preplant soil test will not detect N from a previous legume crop.
- Legume crediting can be combined with other BMPs such as in-season soil testing or crop sensors to fine-tune N application rates.

IMPLEMENTATION REQUIREMENTS

Cost = LOW
 Operation and Maintenance = LOW
 Training = LOW

EFFECTIVENESS

Crediting nitrogen from previous legume crops will reduce fertilizer requirements, remove residual soil nitrate available for leaching.