GUEST COLUMN

Producing Profitable Alfalfa Requires Farmers to Make a Few Critical Choices

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Producing profitable alfalfa requires farmers choose high yield potential products and have a solid understanding of their specific field management needs. For most, forage profitability comes down to growing dense, healthy, fast-growing alfalfa stands. Farmers also need to consider yield potential, pest resistance, fall dormancy, winterhardiness, and weed control for optimal profitability.

Yield Potential

When choosing a seed product, alfalfa farmers should look for products proven to perform with high average yields across multiple years and locations. Crop performance varies by growing region so farmers should choose products with proven high yield that thrive in soil types and climates similar to their farms. When considering yield potential, farmers should contemplate the end use. Alfalfa forage quality and yield potential are inversely related to the alfalfa growth cycle. Early harvest can result in low yield but high forage quality. Late harvest can result in high yield but low forage quality. Generally, cutting based on alfalfa growth stage may result in more consistent and predictable forage yield potential and quality than when harvested on a calendar basis.

Pest Resistance

Farmers should identify the most significant pests in their region and select seed products with resistance to those pests. Products are available to help manage aphids, nematodes, potato leafhopper, or other insects posing threats to a particular area.

Fall Dormancy

When selecting alfalfa products, farmers should determine which fall dormancy and winterhardiness ratings are best for their acres. Fall dormancy and winterhardiness ratings should be considered as separate characteristics.

FALL DORMANCY (FD) RATING DESCRIPTIONS

FD Rating	Description	FD Rating	Description
1 2	Very Dormant	6 7	Semi-Dormant
3 4	Dormant	8 9	Non-Dormant
5	Moderately Dormant	10 11	Very Non-Dormant

FD is the degree of fall alfalfa growth, as a response to temperature and day length. Lower dormancy ratings exhibit less fall growth, while higher dormancy ratings indicate greater fall growth. FD ratings are indices assigned by comparing the height of fall growth with standard check varieties, and tested across locations and years to accurately represent dormancy response across environments. (Source: NAFA Alfalfa Variety Ratings, 2016)

Fall dormancy relates to how soon an alfalfa product stops growing in the fall and how early it begins growing in the spring or late winter. Non-dormant alfalfa products have faster shoot elongation after harvest and erect shoot growth in autumn. In contrast, fall dormant products produce shorter, prostrate shoots in the fall and have slower shoot elongation after harvest.[1]

Season length is determined by a height measurement. Higher fall dormancy ratings indicate more fall growth, whereas length of dormancy affects yield and winterhardiness. Because fall dormant products have slower regrowth after harvest, the number of cuttings per year and yield may be reduced. Ratings vary from 1-11, with 1 being Very Dormant and 11 being Very Non-Dormant.

Keep in mind some alfalfa products may be capable of surviving lower temperatures than indicated by their fall dormancy rating, while some products with a lower fall dormancy rating may not be capable of withstanding cold temperatures over multiple years.

Winterhardiness

Winterhardiness is determined by the ability of an alfalfa product to withstand winter temperatures. The winterhardiness rating helps indicate how well a product will survive the cold. The lower the winterhardiness

rating means the greater the ability of a product to withstand winter temperatures. Ratings vary from 1-6, with 1 being Extremely Winterhardy and 6 being Non-Winterhardy.

If an alfalfa stand is planted for short-term production, a moderate rating may be adequate. For long-term stands, alfalfa products with lower winter survival ratings should be considered. In areas usually receiving snow cover of 4˝ or more, planting products with very low ratings might not provide much additional protection. Snowfall can be unpredictable and protection from a snow cover should not be relied upon. In areas with less snowfall, products with lower ratings should be considered.

Alfalfa products with lower fall dormancy and winterhardiness ratings go dormant earlier in the fall, which can limit productivity and yield for the season. However, single-year productivity can be balanced by the greater likelihood of fall dormant and winterhardy products surviving multiple winters and thereby adding years to the life, overall productivity, and total yield potential of the stand.

Weed Control

To help optimize yield potential, farmers should protect their alfalfa crop with agricultural herbicides. Conventional alfalfa products have limited weed control options, which can hinder stand establishment and persistence and result in lower yield potential. However, alfalfa products with trait technology, such as Genuity® Roundup Ready® Alfalfa, can provide more weed control options. Roundup Ready Alfalfa provides broad-spectrum weed control and greater application flexibility to help reduce crop injury or rotational concerns.

Based on the weeds present in the field, one or more herbicides with different modes of action should be used at least once during the middle years of the stand to help prevent weed shifts or resistance.

[1]Haagenson, D. 2000. Improving winter survival of alfalfa without sacrificing yield–What we know. Purdue University. http://www.agry.purdue.edu (verified 9/18/14).