Estimating Alfalfa RFV in the Field Using PEAQ

Increasing alfalfa **R**elative **F**eed **V**alue (**RFV**) can add value to the farm enterprise through reductions in purchased feed and dry matter intake. Climatic variations of spring conditions, and its varied impact on alfalfa growth and development makes it impossible to use a calendar date to predict when best to harvest first crop alfalfa. However, research from the University of Wisconsin has created a unique and simple method to predict RFV of standing forage, and estimate the best time to take the first harvest of the season.

It is recommended to harvest alfalfa at approximately 150 RFV for milking dairy herds and 120 to 130 RFV for heifers, stocker cattle and lactating beef cattle. Standing first crop alfalfa can drop 3 to 5 points of RFV per day. A one-week delay of first crop harvest could cost 30 RFV points in feed quality.

The PEAQ procedure estimates the RFV of the standing crop. Under the best conditions, 10 to 15% of the forage dry matter will be lost at harvest. This is typically about 10 to 15 RFV units for haylage, and 20 RFV units for hay. Therefore, it is recommended to cut at 165 to 170 RFV to end up with harvested forage at 150 RFV.

How to PEAQ Your Alfalfa Harvest

Predictive **E**quations for **A**lfalfa **Q**uality (**PEAQ**) is a method to predict the forage quality of standing alfalfa. The two equations predict ADF and NDF when the height of the tallest stem is measured and the maturity of the most advanced plant is determined. The equations have been validated in the Midwest and also in other environments from California to New York. It is a reliable indicator to estimate the optimum harvest time for first-crop alfalfa.

Step 1: Choose a representative area in the field.

Step 2: Determine the most mature stem in the area using the table at the right.

Step 3: Measure the most mature stem in the area. Measure it from the soil surface to the tip of the stem (NOT to the tip of the highest leaf blade). Straighten the stem for an accurate measure of its length. The tallest stem may not be the most mature stem.

Step 4: Based on the most mature stem and length of the tallest stem, use the following chart to determine estimated RFV content of the standing forage.

Step 5: Subtract the 10 to 20 RFV units to account for harvest losses during the haylage or hay harvest process.

	--- Stage of Most Mature Stem ----		
Height of Tallest Stem From soil surface to stem tip.	**Late Vegetative** No buds visible	**Bud Stage** 1 or more nodes with visible buds. No flowers visible.	**Flower Stage** 1 or more nodes with open flower(s)
-Inches -	**RFV**	**RFV**	**RFV**
16	**237**	**225**	**210**
17	**230**	**218**	**204**
18	**224**	**212**	**198**
19	**217**	**207**	**193**
20	**211**	**201**	**188**
21	**205**	**196**	**183**
22	**200**	**190**	**178**
23	**195**	**185**	**174**
24	**190**	**181**	**170**
25	**185**	**176**	**166**
26	**180**	**172**	**162**
27	**175**	**168**	**158**
28	**171**	**164**	**154**
29	**167**	**160**	**151**
30	**163**	**156**	**147**
31	**159**	**152**	**144**
32	**155**	**149**	**140**
33	**152**	**145**	**137**
34	**148**	**142**	**136**
35	**145**	**139**	**131**
36	**142**	**136**	**128**
37	**138**	**133**	**126**
38	**135**	**130**	**123**
39	**132**	**127**	**121**
40	**129**	**124**	**118**
41	**127**	**122**	**115**
42	**124**	**119**	**113**

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