

# Idaho - PENERGETIC Alfalfa Field Trial Results 2014

## 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> Cuttings

**Set Up:** Trial was conducted to evaluate the effectiveness of PENERGETIC P Ultra foliar spray on irrigated alfalfa specifically yield and crude protein differences of treated vs untreated fields.

**Application:** PENERGETIC P Ultra was mixed in water and applied through the irrigation pivot using a chemigation style tank. 3.5 oz of active ingredient was applied per acre to half of the pivot (65 acres). Product was applied at approximately 35 days prior to 1st cutting and approximately 30 days prior to 2nd cutting.

**Harvesting and sampling procedures:** For both cuttings the custom chopping operator split the field in half at the pivot and treated the pivot as two separate fields, harvesting one field first and the other field immediately afterward. Every third load was tested for moisture using a Koster moisture tester, an average moisture for each half of the field was estimated. Every truck for both cuttings was weighed and recorded using a commercial farm scale. 1st cutting forage sampling for lab analysis was pulled using the scissor method. 6 samples cut from various areas of each side of the untreated and treated fields and brought to the lab and tested individually. (This was done 2 days prior to cutting). 2nd cutting grab samples were pulled from 8 trucks from each field during chopping, thoroughly mixed and brought to lab for testing.

\* Discussions with the farm's agronomist yielded the fact that the (west) untreated field has an additional 5.5 acre corner section which was included in the yield results for that field. The raw yield numbers for the untreated field have been adjusted do to this advantage by figuring the average yield per acre and subtracting 5 acres (being conservative) worth of wet tons.

<b>Results:</b>	1st Untreated	1st Treated	2nd Untreated	2nd Treated
Side of pivot	(West)	(East)	(West)	(East)
Moisture	60.83%	58.33%	54.80%	62.50%
Wet tons	308.75*	365.57	300.64*	388.27
Dry tons @100%	120.93	152.33	135.89	145.60
Crude Protein %	24.94	26.65	19.00	21.00
RFV	178.86	195.22	127.00	140.00

\*\* Over the course of 2 cuttings, the treated field has yielded approximately 41.11 tons more dry matter (.63 tons/acre) than the untreated field and has shown a **crude protein (CP) advantage of an average of 1.85 points higher** in both trials.

**Ask your nutritionist how much an extra ton of alfalfa DM  
and 1.85 points more CP is worth!**

*For additional info contact Justin Henson @ (360) 348-2929*

### 3rd cutting results and set-up

For third cutting the decision was made by the grower to not apply any Penegetic p and test for the residual effects of the previous applications (prior to 1st and 2nd cuttings) of Penegetic P Ultra in regards to yield and nutrient quality.

<b>Results</b>	Untreated	Treated (prior to 1st and 2nd cuttings)
Side of Pivot	(West)	(East)
Moisture	51.4%	50.8%
Wet Tons	215.11*	260.01
Dry Tons@100%	104.54	127.92
Crude Protein %	19.40	21.50
RFV	133.30	135.40

\*\* 3rd cutting treated half of pivot yielded approximately 23.38 tons more dry matter and a modest (2 pt.) increase in RFV vs. untreated (despite not being treated a third time with Penegetic p).

### Return on Investment Calculations on Three Cuts of Alfalfa in Idaho

**Parameters Used:** Current (October 2014) value of a ton of alfalfa in Idaho: \$250.00

#### **Difference (Increased) in Yield over Three Cuts**

First Cut:	31.40 tons
Second Cut:	9.71 tons
Third Cut:	<u>23.38 tons</u>
TOTAL	64.49 tons

**Value of increased yield (over three cuts)**  $64.49 \times 250.00 = \$16,122.50$

**Total Cost of Penegetic p two applications X 65 acres X \$8.25/acre = \$1,072.50**

#### **TOTAL RETURN ON INVESTMENT (ROI)**

Every \$1.00 invested in Penegetic p produced \$15.03 of extra value.

Therefore: **ROI = 15.0:1 \***

\* This ROI does not include any provision for greater value associated with the higher RFV evident with the Penegetic treated alfalfa, which was, on average, 7.0% higher than the non-treated alfalfa. Yet, RFV is a primary parameter used in differentiating between Fair – Good – Premium and Supreme grades of alfalfa. [The difference between different grades is \$5.00 to \$10.00 per ton]. For instance, if we assume the Penegetic treated alfalfa's higher RFV equates to a higher grade and (conservatively) value the higher grade at an extra \$5.00/ton, the 425.85 tons of Penegetic treated alfalfa (over the three cuts) X \$5.00/ton would mean an extra \$2,129.25 in value, which translates into an additional 2.0 points increase in ROI. In other words, a total (all in) ROI of 17.0:1, instead of 15:1.

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