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**For Immediate Release**

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## **California K-Mag Field Trials Reveal Potential of Alfalfa Products**

The discovery of gold in 1848 turned California's wild, untamed land into the world's most desired destination practically overnight. Today, yet another golden opportunity lies in the fields and valleys of rural California, awaiting the discovery of its potential worth.

It is alfalfa. More than 1.2 million acres of it. Recent side-by-side demonstrations showed that returns of up to 400% ROI are possible when an alfalfa crop is supplied with K-Mag, a naturally occurring 3-in-1 combination of potassium (K), magnesium (Mg) and sulfur (S).

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"In every single trial—no matter what the soil type or management practice—we saw a positive response to K-Mag," Strickler says. Yield increases were measured across the board, equating to an average 22% spike in yields. "In dollars and cents, approximately \$50 per acre investment in K-Mag fertilizer provided up to an incredible \$200 return," he adds.

Even in the northern trial sites (Modesto and Lodi), where Mg levels are typically very high, K-Mag improved both the quantity and quality of alfalfa harvested.

### **Demonstrations Site Selection, Trial Description and Results**

Nine demonstration sites stretching from Lodi down to Buttonwillow allowed K-Mag to be tested under a variety of grower management practices and on a range of soils.

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### MODESTO & LODI

#### The Situation:

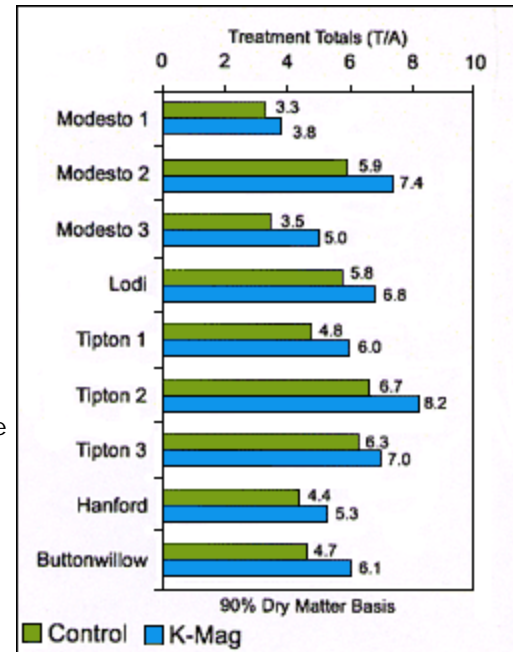
- Soils tended to test high in Mg (general avoidance to Mg fertilizers).
- Growers were asked to retain their current fertility programs during the trial; K-Mag would then be added to test the response.

#### The Trials:

- 150 lbs/A of K-Mag was applied after 1st and 3rd cuttings
- Samples were collected after the 2nd, 4th and 6th cuttings.
- A K-Mag application did not precede the 6th cutting to test the longevity of the K-Mag benefit.

#### The Results:

- Even with already high Mg levels and medium to high fertility rates, the added K-Mag boosted alfalfa yields by 26% at the Modesto sites, and by 18% at Lodi.
- At Lodi, quality improvements were measured. K-Mag was shown to enhance quality, Total Digestible Nutrients and Relative Feed Value. Higher TDN may result in price premiums.
- K-Mag showed signs of enhanced maturity. Because alfalfa tends to put on quality more in the cooler growing periods (beginning and end of growing season), growers striving for quality premiums should focus on these time periods.



### TIPTON

#### The Situation:

- Soils tended to test medium in Mg.
- Trials were placed in three adjacent fields of varying ages.
- This provided a unique opportunity to vary K-Mag rate trials.

#### The Trials:

- Three-year-old stand received 150 lbs/A of K-Mag twice.
- Two-year-old stand received 200 lbs/A of K-Mag twice.
- One-year-old stand received 250 lbs/A of K-Mag twice.

**The Results:**

- Alfalfa yields were increased on all three Tipton stands.
- Although all three stands showed an increase in yield, the higher rates on the 2 and 1-year-old stands did not show incremental increases in yield. This may indicate that 150 lbs/A of K-Mag is an optimal rate. However soil tests, nutrient utilization charts and yield goals should be evaluated to determine appropriate fertilizer rates.

**HANFORD & BUTTONWILLOW****The Situation:**

- Soils in the Hanford area tend to be sandy and they test low to medium in Mg
- Soils in the Buttonwillow area tend to be heavy and test medium to high in Mg

**The Trails:**

- Goal was to test alfalfa's response to K, Mg and S in a highly available form (K-Mag) as compared to MOP. Potassium levels were equalized (with varying rates of K-Mag and MOP) to ensure any measurable response would be due to the added Mg or S, not K.
- Control: 300 lbs/A of muriate of potash (MOP)
- Test: 133 lbs/A of MOP + 455 lbs/A of K-Mag.
- Buttonwillow location received K-Mag applications after the 1st and 3rd cuttings. A later start at Hanford location allowed one application of K-Mag after the 2nd cutting from the start of the trial.

**The Results:**

- The K-Mag + MOP combination outperformed straight MOP in both locations, regardless of the soil type and existing Mg levels. This indicates that added Mg and S had a positive impact on yield.
- Yields were increased by 20% at the Hanford location and by 25% at the Buttonwillow location.
- The grower noticed MOP pellets in field during 3rd cutting at Hanford, which may indicate the nutrients were not immediately available to the plant. This may explain why MOP results improved after 4th cutting. Overall, the K-Mag + MOP combination was superior to MOP alone.

## K-Mag Works

The results of K-Mag trials in California speak for themselves. In a range of soil types and under a variety of management practices, K-Mag boosted yields and quality of alfalfa across the board.

Alfalfa demands high levels of nutrients, particularly as alfalfa management intensifies, so balanced fertilization is critical. In fact, an 8 ton/A alfalfa yield requires:

- 465 lbs of N
- 58 lbs of Mg
- 96 lbs of P<sub>2</sub>O<sub>5</sub>
- 49 lbs of S
- 480 lbs of K<sub>2</sub>O

<b>YOU Do the Math:</b>	
_____	Fill in expected increase in tons per acre (a 20% increase on an 10 ton/A yield would be 2 ton/A)
x _____	Multiply by current hay price
= _____	Total increase in profit based on <b>Yield</b>
+ _____	Add <b>Quality</b> premiums (based on TDN, etc.)
= _____	Total increase based on Yield and Quality.
- _____	(A) fertilizer cost
- _____	(B) application cost
= _____	(C) <b>Net return per acre</b>
$\frac{(C)}{\text{(return)}} \div \frac{(A + B)}{\text{(initial investment)}} \times 100 = \frac{\text{Return on Investment}}{\text{Return on Investment}} \%$	
By including K-Mag as part of a balanced fertility program, California alfalfa growers really can turn green into gold.	

The balanced nutrition in K-Mag helps growers achieve high yield goals, as well as superior quality.



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