

# Katalyst<sup>®</sup>

actagro<sup>®</sup>



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actagro<sup>®</sup>

Soil & Plant Health Technology Solutions™





## Actagro Katalyst

Actagro Katalyst® (0-0-25 with 5% Actagro Organic Acids®) is a highly available form of potassium complexed with Actagro Organic Acids intended to stimulate early growth, fuel the plant's carbohydrate translocation process and improve the efficiency of water use for healthy, balanced and significantly more productive crops. Katalyst is a chloride free, liquid potassium making it easy to incorporate into any nutritional program as it can be applied directly to soil, foliar or through an irrigation system. Katalyst blends well with UAN and can be mixed 1:1 with \*Black Label® or with other macronutrients.

The Actagro Organic Acids in Actagro products are a unique, high carbon content material derived from a humate-based technology that utilizes active ingredients extracted from Leonardite in a proprietary process. They can be classified as humin, humic and fulvic acid; Actagro Organic Acids also contain proprietary carbohydrate packages and are designed to:

### Maximize Nutrient Availability by:

- Increasing CEC in the application zone
- Increasing availability and solubility of nutrients
- Reducing the negative effect of variable pH

### Moderate Toxicity of Salts by:

- Complexing fertilizer salts reducing root and leaf burn
- Buffering the negative effects of soil and water salts

### Improve Plant and Microbial Activity by:

- Providing food sources for beneficial microbes
- Encouraging greater root mass and plant vigor

## The Research Proven Efficacy of Actagro Katalyst

### Katalyst on Grapes

In a two year trial in Monterey County, California Katalyst was treated (fertigated) on grapes of the Pinot Noir variety. Katalyst easily outperformed competitors.

#### Treatments:

- Untreated Control
- KTS @ 34 Lpa (3x per season) = 81 lbs/ac total
- Katalyst @ 12 Lpa (3x per season) = 25.7 lbs/ac total
- Katalyst @ 19 Lpa (3x per season) = 42.8 lbs/ac total

#### Trial Details:

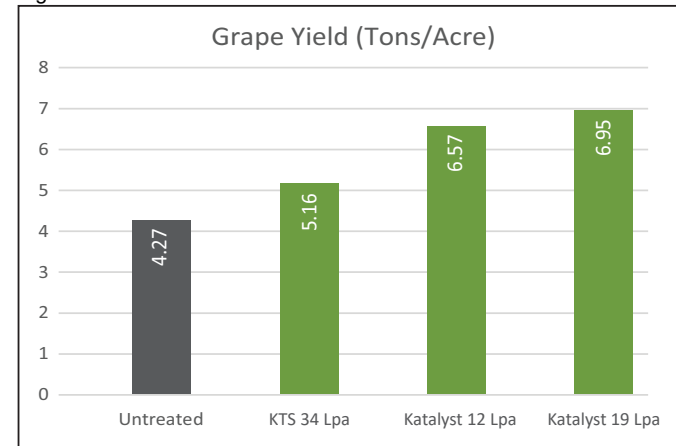
- Plots are single rows, ≈ 0.06 acres/plot, 4 reps
- Grower care for the whole field
- Grower hand harvested and research team weighed the gondolas

#### Trial Results:

- Katalyst not only increased yields, but it outperformed KTS with less potassium applied. Additionally, whereas both Katalyst treatments statistically out yielded the control, KTS did not (see, Figure 1). This confidently proves that the Actagro Organic Acids® in the Actagro® Technology Platform™ maximize the efficiency of applied nutrients boosting crop performance.

- Also note that Katalyst was over 3X more efficient in grape production with no reduction in °Brix. This once again demonstrates improved Nutrient Use Efficiency with Katalyst compared to inorganic K materials with no compromise to quality.

Figure 1



## Katalyst on Corn, Foliar

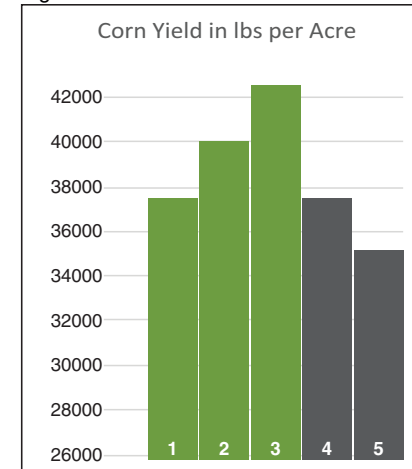
In recent trials on silage corn (30" rows), Katalyst outperformed conventional potassium programs outyielding them by as much as 5000 lbs per acre.

#### Treatments were as follows:

1. Katalyst at 1 L/a
2. Katalyst at 2 L/a
3. Katalyst at 4 L/a
4. KNO3
5. Water with NIS

Each treatment was applied twice. Once at 15-18" tall and another at about 36" tall. Both with LI 700 at 1 L/100. These were small plot applications. The grower cared for the whole field. A similar trial in 2012 showed 2L of Katalyst (twice, on all treatments) to outperform 5 lbs of K2O from K-Nite, and 4 Lpa of Katalyst to outperform K-Nite with just 57% of the K2O per acre. The key is in the Actagro Organic Acids in Katalyst which provide both a humin component and a carbohydrate package additionally to humic and fulvic acids. This patented four part system is what makes Actagro Katalyst superior to any other potassium products on the market (see, Figure 2).

Figure 2



## Katalyst on Corn, Soil Applied

In several multi-year, multi-site trials Katalyst was tested on corn. Katalyst easily outperformed competitors such as KTS and KCl even with less K applied. This confidently proves that the Actagro Organic Acids in the Actagro Technology Platform maximize the efficiency of applied nutrients boosting crop performance. It was also evident that Katalyst outperformed its competitors in lbs/ac production and ear weight once again demonstrating the improved Nutrient Use Efficiency of Katalyst compared to inorganic K materials with no compromise to quality.

#### Trial Details:

- Trials were conducted on grain corn, on 30" rows. Non Irrigated.
- One or two applications were made per treatment (depending on trial) Katalyst was compared to either 0-0-12 KCl (applied once) or 6% K/0-0-25 @ 20 lbs of K each (depending on trial).

#### Trial Results (see, Figure 3 & 4):

- Katalyst not only increased bushels per acre, but it outperformed KCl with less potassium applied.
- Katalyst was over 4X more efficient in lbs/ac production.
- Katalyst not only increased yields, but it outperformed KTS with less potassium applied.

Actagro® products are historically proven by both field experience and research work. The key to their efficiency is the unique formulation of Actagro Organic Acids®.

When properly applied in a complete and balanced nutrition program, Actagro® products have repeatedly increased yields, improved quality and provided the greatest return on investment.

Figure 3

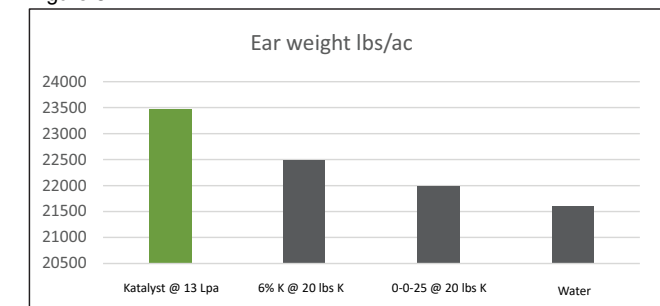


Figure 4

