



# COTTON

## Challenges

The cotton field in Maricopa County, AZ had many problems including high pH, leaching, and poor moisture retention.

## Results after applying Orykta®:

- ✓ pH was lowered,
- ✓ Nutrients were retained after irrigation at root, and
- ✓ Greatly increased moisture holding capacity

Parameter	Without Orykta®	With Orykta® @ 1000 lbs/acre
pH	10.4	7.1
Moisture retention % capacity	5	98
Ammonium, $\text{NH}_4^+$ , ppm	4	12
Nitrate, $\text{NO}_3^-$ , ppm	13	27
Phosphorus, P, ppm	11	29
Potassium, $\text{K}^+$ , ppm	166	290
Calcium, $\text{Ca}^{2+}$ , ppm	1890	2654
Magnesium, $\text{Mg}^{2+}$ , ppm	165	195
Zinc, $\text{Zn}^{2+}$ , ppm	0.04	5.46
Iron, $\text{Fe}^{3+}$ , ppm	10.06	32.5
Copper, $\text{Cu}^{2+}$ , ppm	0.42	9.4
Manganese, $\text{Mn}^{2+}$ , ppm	22.7	43.4

MARICOPA  
COUNTY,  
ARIZONA

ANALYSIS  
PERFORMED BY  
AG-LABORATORY,  
INC



# COTTON

Chinese Academy of Agricultural Sciences (CAAS) conducted series of **INDEPENDENT** tests applying Orykta® to various types of crops grown in a wide range of different regions and soils throughout China.

Production increase rate of 12 crops reached R (remarkable) level of the national standard (>5%), and some even reached VR (very remarkable) level (>15%).

Baseline Plot (Control Group): normal fertilizer usage

Orykta® Plot: combine Orykta® with reduction in normal fertilizer usage by 30-40%.

## Summary of Results:

Location	Soil Type	Yield Increased over Control Group
Shandong	Fluvo-Aquic Soil pH 7.3	1.9 – 6.7%
Hebei	Medium Alkaline Fluvo-Aquic Soil pH 7.82	13.5 - 16%

## Orykta® vs Control Group

- ✓ Increased rate of emergence
- ✓ Increased plant weight
- ✓ Increased yield

**SHANDONG  
PROVINCE**

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**ORYKTA® IS 1<sup>ST</sup>  
FOREIGN MINERAL  
SOIL AMENDMENT  
REGISTERED IN  
CHINA**

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**HEBEI PROVINCE**

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**“The rate of emergence of the cotton seedlings was 62.75% higher in the Orykta® treated field.”**