



**Solutions
for human
progress**



Stronger plants. Earlier flowers. Higher yields.

Trial results from California strawberries show that adding iodine with Ultrasol®ine improves plant performance under stress. In studies with stressed plants, iodine helped strawberries recover faster, grow stronger, and deliver higher returns.

Trial Snapshot:

- **Crop:** Strawberry cv. BGI3024
- **Location:** Ventura, California (pots, loamy sand soil)
- **Stress:** Compaction + Macrophomina sp. (Charcoal Rot / Crown Rot) presence

Treatments:

	Fertilizer source	Dose per application	No. of applications	Timing of application
KNO₃	CAN 17	6 gal/ac	2	3 and 5 weeks after planting (wap)
	Calcium nitrate	10 lb/ac	12	6 wap, and every two following weeks
	Ultrasol® K Plus 13-0-46	10 lb/ac	13	At planting and every two following weeks
	Magnesium sulfate	2.3 lb/ac	12	6 wap, and every two following weeks
	Ultrasol® 6-30-30	10 lb/ac	6	7 wap, and every two following weeks
	Bull Dog 20-20-20	6 lb/a	5	9 wap, and every two following weeks
KNO₃ + Iodine <i>Ultrasoline K Plus</i>	CAN 17	6 gal/ac	2	The same timing as described for the first treatment was maintained for each nutrient source.
	Calcium nitrate	10 lb/ac	12	
	Ultrasol®ine K Plus 13-0-46	10 lb/ac	13	
	Magnesium sulfate	2.3 lb/ac	12	
	Ultrasol® 6-30-30	10 lb/ac	6	
	Bull Dog 20-20-20	6 lb/a	5	

Total nutrient application:

N-Tot	N-NO ₃	N-NH ₄	N-NH ₂	P ₂ O ₅	K ₂ O	S	CaO	MgO	I (only treatment 2)
lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac
71	55	12	3	24	84	5	50	5	0.130



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Ultrasoline[®]
K Plus

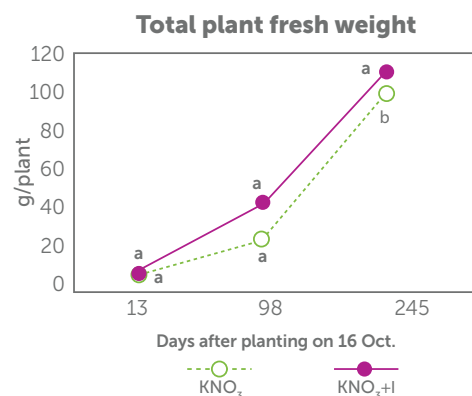
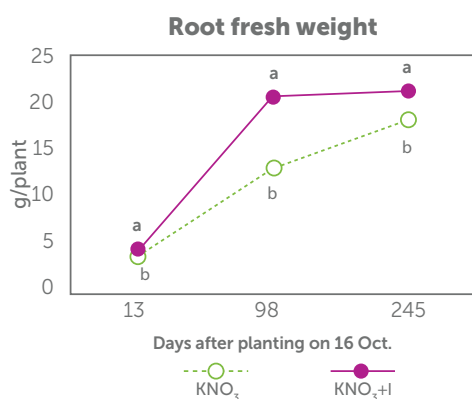
Key Results

- At 11 weeks, iodine-treated plants had 61% open flowers, versus 37% in controls plants.
- Greater root and shoot fresh weight throughout the trial, first measured 13 days after planting.
- +4.1% total season marketable yield vs KNO_3 alone.
- Projected ~\$500 per acre higher revenue despite more small fruits (<20 g) under stress conditions.

Key Benefit

Even when strawberries were inoculated with *Macrophomina*, Ultrasol[®]ine with iodine helped them push through stress, delivering earlier growth, stronger plants, and higher net returns.

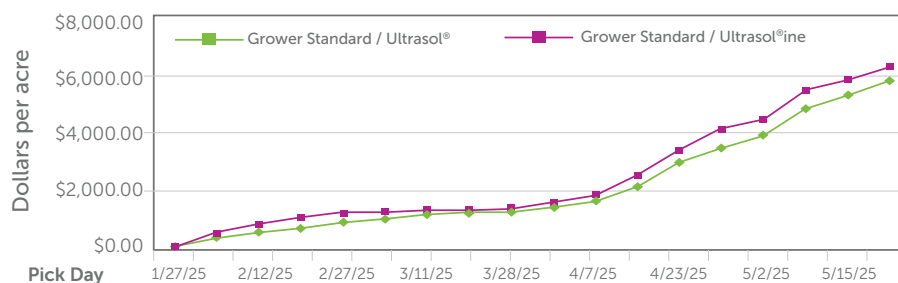
Greater root and shoot fresh weight with iodine throughout the trial



Trial Insights

Iodine is known to bind to plant proteins, including those involved in root growth and stress defense. In this strawberry trial, iodine in the Ultrasol[®]ine program supported stronger root and shoot development, earlier flowering, and resilience under compact soil and *Macrophomina* pressure. Despite more small fruits under stress conditions, the program delivered a **4.1% higher marketable yield** and nearly **\$500 per acre greater returns**.

Nearly \$500 per acre increase with the Ultrasoline[®] program.



Net return is calculated with daily prices per pick day (www.marketnews.usda.gov/portal) and approximately \$7.00 per tray were removed that would represent picking labor, carton and tray costs, transportation to the cooler, and cooling costs associated with picking the strawberries.

DISCLAIMER

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