

Experiment Info:

Exp.: 13-1202

Planted: 4/30/13

Variety: Ibiza

Population: 500,000

Plot Size 5 ft x 30 ft

Reps: Four

Harvest: 10/25/13

Soil Test Values (ppm):

Farm/Field 1217

pH: 7.6

CEC: 22.6

OM: 11

P1: 15

K: 111

S: 11

% K: 1.3

% Mg: 17.9

% Ca: 80.6

% H: 0

% Na: 0.2

Zn: 2.6

Mn: 2

Fe: 70

Cu: 1.6

B: 0.8

Objective:

Compare soil fertilizer products and application methods/timing on the marketable yield of carrots.

Materials & Methods:

- In late April the dry and liquid fertilizer were broadcast in their treatment areas and incorporated with a field cultivator (Table FC1). Beds were then formed (4" tall x 24" wide x 30' long) and planted with two paired rows (4 rows) of "Ibiza" variety carrot seeds. They were planted approximately 0.35" deep on the top of the beds with approximately 3 lbs/Acre seeding rate.
- Following the planting of the carrots seeds, fertilizer products described treatment #3 of Table FC1 were banded directly over the top of the entire bed.
- One of two sidedress applications were then made as described during the growing season. These applications were knifed into the center of the bed, directly between the two pairs of rows. The next day water was applied with drip irrigation tape placed directly over this band to further incorporate and distribute these fertilizers.
- In late October the carrots were harvested, topped, sorted by hand and then each plot was weighed.

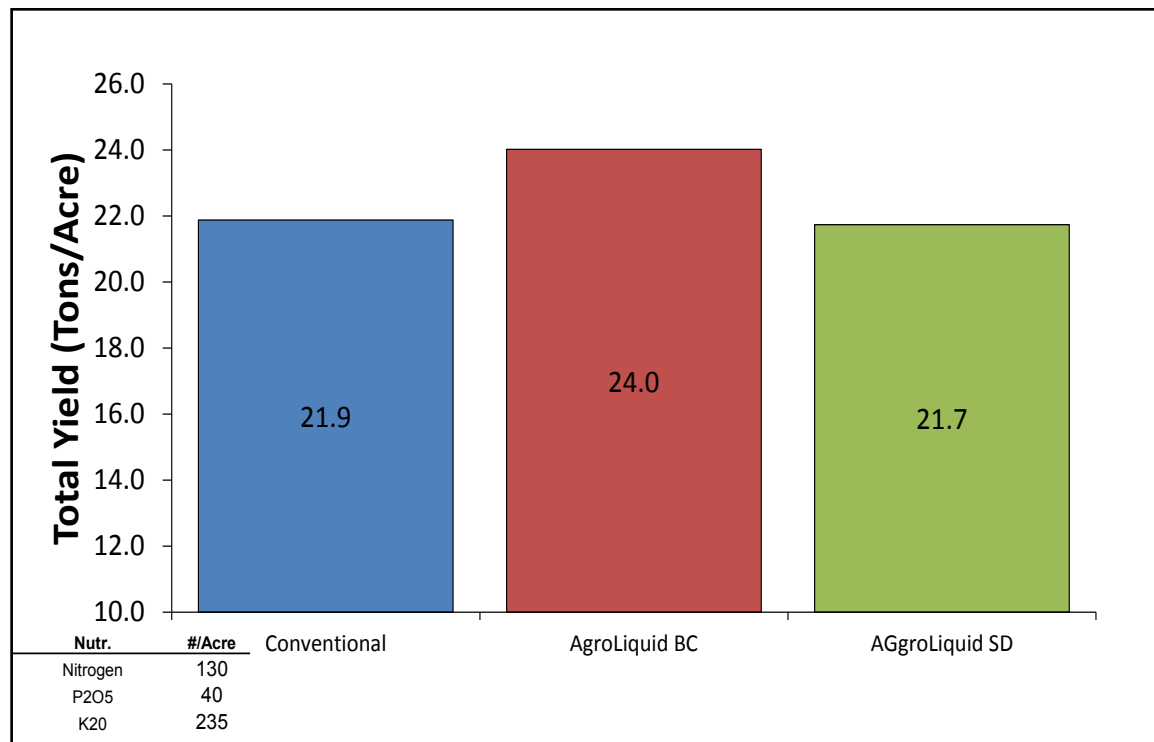


Figure FC1. Carrot yields as impacted by fertilizer type and placement/timing.

FC1. Affect of fertility products and applicaion timing on the yield aof fresh market Carrots, Ibiza variety, 13-1202

Treatment		Rate/A (gal or lb/A)	"Method of Application"	Nutrient* lbs/A	NUE**	Yield Tons/A
1	0-0-60	395#	PPI	407.9	107.4	21.9
	10-34-0 + 28% UAN	10 + 10	PPBC			
	28% UAN	15	Side dress			
	28% UAN	15	Side dress			
2	HN + PG + SK + Micro 500 + Mn	14 + 10 + 10 + 4 qt + 2pt	PPBC	140.5	341.5	24.0
	HN + PG + Sure-K	10 + 3.5 + 10.4	Side dress			
3	PG + M-500 + Mn	5 + 1 + .5	Surface Band	140.5	308.8	21.7
	HN + PG + SK	12 + 4.5 + 10.4	Side dress			
	HN + PG + SK	12 + 4 + 10	Side dress			

*Micronutrients not included in total fertilizer per acre calculations. **NUE = Nutrient Use Efficiency = Lbs Yield / Total Lb. N,P,K&S as Fertilizer Applied, HN = High NRG-N, PG = Pro-Germinator, SK = Sure-K, PPI = preplant incorporated, PPBC = pre-plant broadcast

Conclusions:

- Yield for the AgroLiquid program (Trt #3) that was applied as a surface band after panting and two sidedress applications was similar to the Conventional fertilizer program (Trt #1). While it is often the case that the AgroLiquid programs will outperform conventional fertilizer programs, these programs were intended to be identical in performance and that was the result. Still, the initial side dress applications were applied later than anticipated and the limited early nitrogen availability with this AgroLiquid program may have limited yields.
- Pre-Plant broadcasting and incorporating half of the AgroLiquid nitrogen, phosphorus, potassium and all micronutrients (Trt #2) into the bed prior to planting resulted in the highest observed yield. This fertility program produced a fresh market yield approximately 2 tons greater than the conventional program. Additionally, this fertility program utilized only one side dress application, saving on application time and costs.
- Nutrient Use Efficiency (NUE) was approximately 3X greater with both AgroLiquid programs Table C1). Producing the same or greater yields with numerically fewer pounds of nutrients applied shows the efficiency of AgroLiquid's products.