

Transit Soil® Increases Celery Quality & Yield

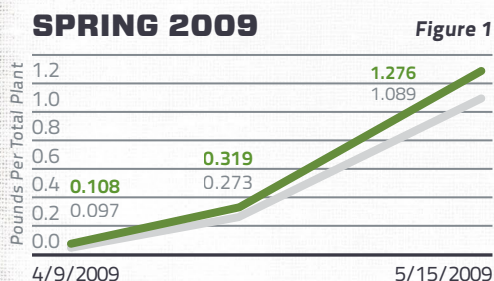
Holden Research & Consulting California, USA



RESEARCH SUMMARY

Holden Research and Consulting has conducted four trials to evaluate **Transit Soil®** when applied to celery. These trials were designed to demonstrate improvements in crop vigor, quality, and productivity derived from applications of **Transit Soil** in addition to the grower standard program.

CELERY WHOLE PLANT WEIGHT Ventura, California

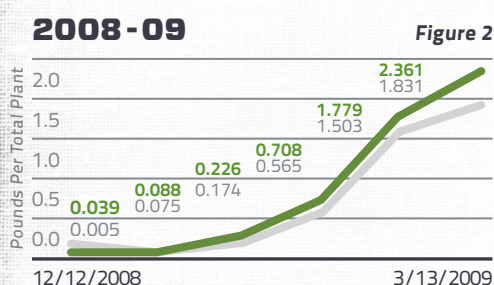


Apply Early

17% Larger Plants than the Grower Standard

Whenever possible, we recommend applying **Transit Soil** early in the growing season. While **Transit Soil** can be added to any existing fertilizer application, we have seen the most significant yield increases when applied early. Figure 1 shows the increase in whole plant weight observed when **Transit Soil** was applied.

Figure 1: A 17% increase in whole plant weight with **Transit Soil** applied at 8 oz per acre under the tape at irrigation.

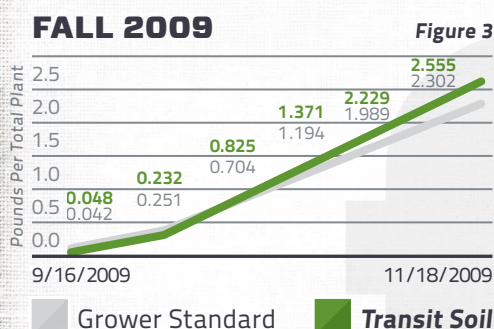


Apply Often

29% Larger Plants than the Grower Standard

Time after time, we see the benefit of multiple applications of **Transit Soil** throughout the life cycle of the crop, especially in high value irrigated crops, like celery. Figure 2 shows the difference in whole plant weight between the grower standard treatment and a treatment that included **8 oz per acre** of **Transit Soil** at planting followed by 3 additional applications 3 weeks apart.

Figure 2: A 29% increase in whole plant weight when **Transit Soil** is applied at planting at 8 oz per acre followed by 3 additional applications at the same rate, 3 weeks apart in this field trial.



Larger Plants. Higher Yields. More Money.

15% Increase in Net Return

As can be seen in the data from the last rating date Figure 3, **Transit Soil** had a significant effect on producing larger sized plants. Celery is packed in 60 pound cartons; the carton size is based on the number of stalks packed per carton (18, 24, 30, 36, and 48). *Continued on page two...*

Figure 3: 11% increase in whole plant weight when **Transit Soil** (8 oz/ac) was applied at planting followed by 2 applications 3 weeks apart under the tape in this field trial.



Continued from page one

Larger Plants. Higher Yields. More Money.

15% Increase in Net Return

Figure 4 shows the extrapolated return to the grower after harvest costs are taken out of the equation; again the **Transit Soil®** treatment produced significant returns to the grower. As in all the produce business, prices can vary greatly during the season. The net price per size for this harvest date (after a \$6 per box harvest cost for pick, pack, and ship is taken out) was 18's- \$12.00, 24's-\$8.50, 30's-\$8.50, and 36's - \$7.50. These were significantly good prices most likely based on earlier rains and lower lettuce production in California this year due to the drought.

Transit Soil & Nutrient Use Efficiency

43%-122% Greater Nutrient Uptake

Transit Soil increased celery growth and yield by 40% when added to 10-34-0 and by 5% when applied alone.

Transit Soil applied without 10-34-0 allowed the plants to mine the soil of Phosphorus and resulted in equivalent plant growth and yields. **Transit Soil**, when applied with 10-34-0 increased the uptake of nutrients by the following percentages:

Nitrogen	+ 54%	Calcium	+43%
Phosphorus	+122%	Magnesium	+ 47%
Potassium	+67%	Zinc	+ 77%

RESULTS

Transit Soil left 89% more available Phosphorus in the soil for subsequent crops. This indicates that not only did **Transit Soil** produce more roots; it also increased the production of root exudates.

All treatments made at planting, 3 weeks later and again 3 weeks later; all 10-34-0 applications included 50 ppm P2O5 as 10-34-0; all **Transit Soil** applications included 1 oz per 10 gal water via soil drench.

CELERY NET RETURN PER ACRE After Harvest Costs

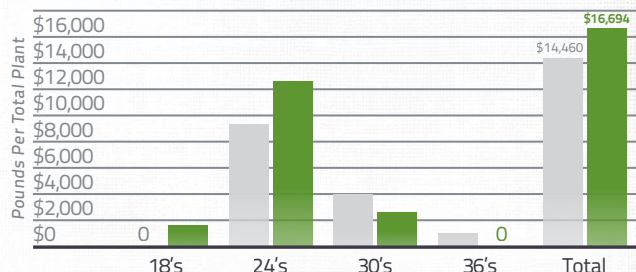
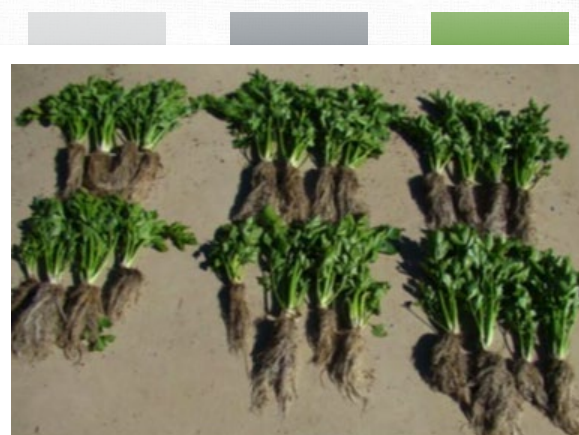


Figure 4: A 15% increase in net return per acre, after harvest costs, by applying **Transit Soil** at 8 oz/acre at planting followed by 2 additional applications 3 weeks apart.



Grower Standard
+ 10-34-0

Transit Soil
+ 10-34-0

Transit Soil
Alone

CELERY YIELD PER ACRE BY BOXES Ventura, California | Fall 2009

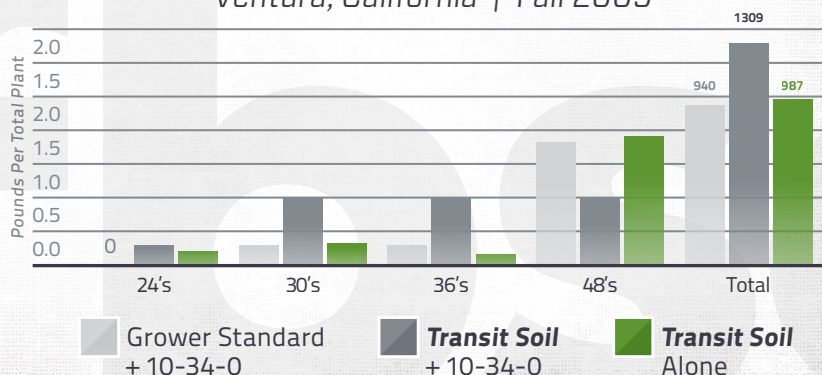


Figure 5: A single application of **Transit Soil** alone (no 10-34-0) increased whole plant weight by 5% over the grower standard which received 10-34-0. When **Transit Soil** was paired with 10-34-0, the whole plant weight increased by 40%.

