AgriBoost® Boosts the Growth of Vegetable Crops:
Results from ASI-Sponsored Research
in Switzerland and Jordan

Two studies were undertaken to verify and quantify the positive effects of using AgriBoost™ in plant growth media and soil for vegetable culture. The studies were conducted completely independent from each other and have arrived at essentially the same findings:

1) AgriBoost™ boosts yield.
2) AgriBoost™ results in more efficient use of nutrients and water by vegetable crops.

In the Swiss study, vegetable seedlings were grown for a limited time (tomato: 68 days; cauliflower: 38 days) in various peat-based growth media typical for production of vegetable seedlings in the greenhouse. It was found that:

1)   Growth media containing AgriBoost™ resulted in larger plants at the end of the experiment than its equivalent without AgriBoost™.
        Benefit: Faster growth yields marketable plants sooner or bigger, more attractive plants in the same amount of time.

2)   Adding AgriBoost™ to the growth media increased the availability of the plant nutrients Potassium (K), Magnesium (Mg), Calcium (Ca), Iron (Fe), and Manganese (Mn). **Benefit:** Increased nutrient availability can prevent deficiencies that slow plant growth.

3)   AgriBoost™ boosted nutrient uptake. With AgriBoost™, cauliflower took up more Nitrogen (N), Magnesium (Mg), Calcium (Ca), and Boron (B). Tomato nutrient content was increased for N, Mg, Ca, B, Iron (Fe), Zinc (Zn), Copper (Cu), Phosphorus (P), and Potassium (K). **Benefit:** Increased nutrient content means a healthier, more nutritious vegetable.

4)   AgriBoost™ boosted plant growth regardless of whether the fertilization was "organic" or conventional (with "chemical" fertilizer). **Benefit:** Both conventional and "organic" growers get increased yields from the use of this product.

In the Jordanian study, tomatoes and lettuce were grown to maturity under greenhouse conditions in a typical clay soil. The results, therefore, allow judging the effect of AgriBoost™ on the production of marketable produce. Specific findings are:

1)   AgriBoost™ to the soil increased the yield of lettuce and tomato compared to the current fertilization practices. Yield increased almost linearly with increased AgriBoost™ applications from 5 tons/ hectare to 20 tons/hectare. This yield increase happened despite the fact that the soil was already very high in plant-available Phosphorus (P) and Potassium (K), two of the most important plant nutrients. **Benefit:** More marketable product from the same land area, beyond that which can be grown with additional fertilizer or under very high soil fertility. This means even a grower who is already investing in top management can still expect an increase in profits.

2)   AgriBoost™ increased nutrient uptake of the plants. **Benefit:** The produce is more nutritious.

3)   Water use efficiency (WUE) increased with additional applications

of AgriBoost™. WUE is a measure of how much product is grown for each unit of water used. Lettuce WUE increased linearly up to 20 tons/hectare. Tomato WUE increased up to 15 tons/hectare then dropped again somewhat. **Benefit of increased WUE:** More produce can be grown with the same amount of water, a big advantage for arid areas dependent on limited sources of irrigation water and/or limited rainfall. Even if unlimited irrigation water is available, savings from less pumping can be significant.

Based on the results, the optimum grain size appears to be 2 mm. The optimum application rate of AgriBoost™ could be beyond the highest rate used of 20 tons/hectare, and may be different for each crop, soil type, and fertility level. Our current studies will help answer these questions. Overall, both studies agree that adding AgriBoost™ to the soil increased yield as a result of increased nutrient uptake by three different crops.