PRESS RELEASE

January 10, 2002

AgriBoost™ Soil Amendment:
A Multitude of Benefits for Plants and the Environment

AgriBoost™ is an all-natural mineral soil amendment that provides many benefits to plants, growers, and the environment. It has proven its enhancing effects on plant growth in potting mixes, golf green root zone mixes, and in natural soil. At the same time, AgriBoost™ helps in reducing the environmental impact of fertilization, and conserves natural as well as economic resources.

Qualities and Benefits

AgriBoost™ is a mineral material crushed to medium sand size. Unlike plant-based amendments like peat or compost, it will not decompose, shrink or compact over time.

AgriBoost™ has a high water-holding capacity, and most of this held water is plant-available. In a study of soil amendments for golf putting greens at the University of Wisconsin-Madison, only peat moss held more plant-available water. This water retention helps to prevent leaching and increases plant water use efficiency. Researchers at the

ASI Specialities, Ltd. 3333 K Street, NW, Suite 210, Washington, DC 20007 Tel. (202) 625—1595, Fax (202) 342—2360

National Center for Agricultural Research and Technology Transfer (NCARTT) in Jordan in conjunction with the University of Science & Technology of Jordan tested AgriBoost™ for tomato production in regular soil. Compared to the control, AgriBoost™ reduced the amount of water needed to grow 1kg of tomatoes by over 27%. This means a big savings in irrigation water, or an increase in the area that can be irrigated with a given amount of water.

AgriBoost™ has a very high cation exchange capacity (CEC): 20 cmol kg^{-1} for divalent cations like calcium (Ca) and magnesium (Mg), 93 cmol kg^{-1} for potassium (K)

and ammonium (NH_4^+); Sodium (Na), which is detrimental to plants, is retained very little. CEC is the ability to hold certain plant nutrients in a plant-available form but protects them from leaching. Most zeolite products get their CEC from the mineral Clinoptilolite, which in pure form has a CEC of 254 cmol kg^{-1}. AgriBoost™'s zeolite is Phillipsite, with a much higher CEC of 387 cmol kg^{-1}. The high ion selectivity for K^+ and NH_4^+ over Ca^{2+} and Mg^{2+} was discovered in the Wisconsin and other studies. This selective and very high cation exchange capacity is the basis for increased fertilizer efficiency with K and N fertilizers. It also allows the use of irrigation waters high in soluble Ca, Mg, and Na, such as water from sewage treatment plants.

AgriBoost™ provides a reservoir of micronutrients due to its unique mineralogy. Aside from the zeolite Phillipsite, it contains palagonite, olivine, and other minerals that slowly release micronutrients over time. This is an advantage especially in subtropical and tropical soils that are highly weathered and very low in soil organic matter.

Patent applications have been filed on AgriBoost™, an unadulterated natural, non-toxic Jordanian product. It is recovered through

environmentally friendly technology without the use of scarce water and other natural resources of Jordan. The Organic Materials Research Institute in the US has approved these facts by certifying AgriBoost™ for "organic" use (OMRI Listed).

AgriBoost™ added to soil or potting media has been proven to result in larger plants, faster growth, and higher nutrient uptake in two studies by the Swiss Research Institute of Organic Agriculture (FiBL). These studies compared various potting media with and without AgriBoost™. The research done by NCARTT and the University of Science & Technology in Jordan demonstrated earlier growth and more flowering, higher yield, and better fruit quality, with the use of AgriBoost™.

AgriBoost™ Advantages for Arid Regions

The composition of the root zone medium in which landscape plants grow becomes especially important under fully irrigated conditions in arid climates. To be most effective, irrigation water needs to be able to infiltrate rapidly into the root zone. Slow infiltration leads to ponding on the surface, runoff, and evaporation. In each case, the water is lost without benefiting the plants. AgriBoost™ helps increase and maintain the infiltration rate of a soil because of its sand-like texture. Once in the root zone, irrigation water should be prevented from draining away but held lightly enough for uptake by plant roots. AgriBoost™ has a high water-holding capacity, and plant roots can easily access this held water. In one gram of AgriBoost™, the channels provide up to several hundred square meters of surface area on which chemical reactions can take place.

AgriBoost™ Summary

AgriBoost™ selectively holds the two most important plant nutrients Nitrogen and Potassium, avoids excesses of Calcium and Magnesium, and rejects detrimental Sodium. AgriBoost™ has a high capacity to hold plant-available water, and it lets water infiltrate easily. Its unique mineral composition provides a long-term supply of micronutrients to plants. Since AgriBoost™ is an all-natural mineral material, it does not degrade and retains these properties for many years. There is no other soil amendment available today that provides this combination of benefits. It would take several conventional products to mimic AgriBoost™, however, the cost would be much higher and performance would still be less effective and enduring.

AgriBoost™ Questions?

Additional technical information, the actual results of the studies mentioned, and recommendations for the use of AgriBoost™ for specific crops and applications are available on request. Please do not hesitate to visit our website or contact ASI Specialities directly if you have any questions regarding AgriBoost™.