



The Benefits of Using Agri-SC® Soil Conditioner

Many of the best agricultural soils in the world have critical water management problems that must be solved before the most efficient production practices can be implemented, and maximum economic yields can be realized. Whether a soil is suitable for crop plant growth depends not only upon chemical fertility, but also upon the presence and movement of water and air, as well as the proper mechanical attributes of texture, structure, etc. The soil must be structured to allow for water and air movement and for good root development. Soil pores must be of the volume and size distribution that will ensure adequate movement and retention of water and air to meet plant needs. Thus, in addition to nutrient fertility, an agricultural soil must also possess physical fertility, with both attributes essential for overall soil productivity.

Application of Agri-SC® Soil Conditioner to tight, water-stressed agricultural soils results in the reduction of soil-water management problems. The benefits of Agri-SC® are all directly related to the product's ability to increase water infiltration rates and reduce the shear strength of the soil. Although some of the benefits are somewhat subjective and difficult to measure directly in the field, the combined effects can and have been observed in both research and practical situations to improve soil, air, water balance and thus improve yields.

IMPROVED SOIL AERATION When excess surface water and excess water in the crop root zone are drained soon after a heavy rainfall or irrigation, improved soil aeration is the result. Subsequently, a more extensive crop plant root system can develop and results in a more efficient use of soil nutrients and water. In addition, a well-drained and aerated soil serves as a favorable environment for the biological and microbial life. There is also less likelihood of severe soil-borne diseases developing in well-drained soils.

MORE EFFICIENT FIELD OPERATIONS Soils that possess improved drainage due to application of Agri-SC® allow for more efficient tillage, planting, and harvesting.

IMPROVED SOIL STRUCTURE Use of Agri-SC® improves drainage of excess soil water and can also develop and maintain an improved soil structure by reducing the likelihood of soil compaction due to trafficking of soil that is too wet.



IMPROVED SEED GERMINATION, EMERGENCE, AND INCREASED PLANT GROWTH RATE

With better soil drainage due to Agri-SC® application, soils warm more quickly in the spring. Warmer soils aid in more rapid seed germination and an accelerated plant growth rate over cooler soils. Seed to soil contact is also improved. Planting into a conditioned soil aids in a more uniform emergence by reducing the likelihood of surface soil crusting.

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EXTENDED GROWING SEASON Growing seasons can be extended by the use of Agri-SC® due to earlier possible planting dates. Also, this can extend livestock grazing periods and permit planting of high-yield crop hybrids and varieties.

IMPROVED NITROGEN RELEASE When drainage is improved, the water table in the crop root zone is lowered, and an increased amount of microbially produced nitrogen can be released for crop use. Additionally, denitrification due to excess soil water and inadequate oxygen is sharply reduced in well-drained soils.

FUEL SAVINGS Use of Agri-SC® results in sizeable fuel savings during tillage operations. Research has shown that soil treated with Agri-SC® exhibits lower shear strength, which translates into less draft required for tillage. When soil is well drained, there is less need for four-wheel drive tractors or dual wheels.

EARLIER CROP MATURITY AND HARVEST Well-drained soils provide conditions which bring about earlier crop maturity. When crops can be harvested earlier, weather conditions are usually more conducive to natural drying of grain in the field. Thus, there is an additional saving of costs of artificial drying.

LESS DAMAGE TO OVER-WINTERING CROPS Perennial or over-wintering crops, such as alfalfa or wheat, growing in well-drained soils are less likely to suffer from heaving or smothering due to excess soil or surface water.

MORE EFFICIENT WEED CONTROL Shallow-rooted weeds and grasses frequently do very well in wet, poorly drained soils and compete successfully with crop plants. Effecting good soil drainage with Agri-SC® will help alleviate this problem.

MORE EFFICIENT USE OF DRAINAGE TILE Even the best drainage tile installation will not be efficient if excess soil water cannot reach the tile system. Application of Agri-SC® improves the efficiency of such tiling systems by improving water movement through the soil.

LESS COMPACTION BY GRAZING LIVESTOCK Application of Agri-SC® brings about better soil drainage and drier soils, and this means less compaction damage to soil and vegetation by grazing animals.

LESS SOIL LOSS THROUGH EROSION The use of Agri-SC® improves water infiltration into soils, resulting in less soil erosion and better soil storage of precipitation. Thus, overall, the use of Agri-SC® soil conditioner to promote better soil drainage and less soil shear strength will result in improved crop growth and quality, less risk of crop loss due to excess soil water, and a greater potential for increased crop yields.



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