



## **ADVANTAGES AND DISADVANTAGES OF USING BROILER LITTER IN SOILS**

The application of broiler litter to growing crops has a two-fold purpose. It provides a means of disposing of litter and it also provides nutrients to the plants and organic matter to soils. The application of broiler litter should be determined by the nutrients in litter and the nutrient needs of the crop.

Broiler litter has several advantages when applied to growing crops.

Broiler litter improves soil fertility. Litter contains many plant nutrients that are beneficial to soils.

Broiler litter helps increase organic matter content of soils. Organic matter is the life of a soil. Organic matter will increase the water holding ability, improve soil aeration, improve soil structure, increase the plant nutrient-holding ability and increase microorganisms.

Sandy soils of East Texas have a low water-holding ability. Organic matter has good water retention abilities which help sandy soils. Pastures planted in soils where litter has been applied for several years will remain green and grow longer in dry years. Plant roots take in oxygen and give off carbon dioxide. A root will not grow without oxygen. Air exchange in the root zone is essential for root growth. A poor root system provides a poor top growth. Litter will help the soil structure so that a soil has good air exchange.

Organic matter has negative charges which will hold positive-charged nutrients such as ammonium, calcium, magnesium, zinc and others. Sandy particles have no electrical charges to hold nutrients. Clay, silt and organic matter help hold nutrients in the soil. Too much clay and silt will cause a tight soil evidenced by poor air and water movement in the soil. There is a constant exchange of plant nutrients between organic matter and the soil solution where plant roots pick up nutrients.

Organic matter helps increase microorganisms. Microorganisms are very beneficial to soils. They convert nutrients that are unavailable to plants into a form plants can use. They also provide for the nitrogen-fixing ability for legumes as well as many other functions.

Broiler litter also has several disadvantages. Litter has an odor for a short time after being applied to soil, especially the first time it gets wet. Broiler litter is also very bulky and contains varying amounts of moisture. The excess moisture increases transportation costs. The nutrient content of broiler litter also is highly variable.