

BEI 140

CROP YIELD AND ECONOMIC COMPARISONS OF CONVENTIONAL AND ORGANIC FARMING OF SOYBEAN IN THE DRY ZONE OF SRI LANKA

Abstract

A large number of comparison studies of soybean production in the world revealed that the organic production was equivalent to, and in many cases better than, conventional. In the drier climates organic systems had higher yields than conventional. When comparing the profitability of farming systems, it was found that organic cropping systems were always more profitable than the conventional. This was attributed to lower production costs and the environmental sustainability. Soybean obtain its nitrogen with the symbiosis of *Bradyrhizobium japonicum* and phosphorous by arbuscular mycorrhizal fungi. This study was focused on comparison of soybean yield in conventional and organic farming. Soils were collected from a soybean field of the dry zone of Sri Lanka, where conventional farming was practiced for ten years. Greenhouse pot experiment was carried out with two treatments of field soil with synthetic fertilizer and field soil with biofertilizer. Field soil only was considered as the control. Soybean plants were harvested after 80 days of growing. When compare the mean pod dry weight of each treatment, there was no significant difference of the treatment effect ($P= 0.5618$). Control showed a high mean yield than other two treatments and fertilizer treatment had the lowest yield but the differences among treatments were not significant.

Keywords:

Organic production, Organic systems, Profitability of farming systems, Dry zone