

Poultres Integrated Into Horticultural Crop Rotation

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Abstract

It is highly recommended for all organic farmers to build a complex farming unit. It has to be organized with the whole circle of nutrients in the soil – plant – animal system. The complex farm is the only way to establish a stable farming circumstance for the whole farming practice and keep the soil alive to provide healthy environment for all the activities. The idea of a small-scale farm unit is a favorable approach for rural food and income production at a family level. The multi purpose objective of our pilot unit was to build a complex farming system for small-scale farmers, which is flexible enough to use it as a module for large-scale systems as well. The 'plant' part of the special rotation is made of horticultural crops and fodder for the 'animal' part. The animal part is poultry in this system as turkey, chicken, and laying hen for three years of test. This pilot unit has to be act as a demonstration centre, a research site, and a real production unit.

The total area of this experiment is 6000 m² (40m x 150 m) surrounded with fence, which is completed with a three-wired electric fence system at ground level up to 50 cm height to keep the predators away and divided into five equal parts as rotation sections. The poultry species and breeds were invested into the rotation are turkeys and chickens. Turkeys were tested only for one year as the start. The breeds were traditional bronze and copper color varieties and their crosses. Tested chicken breeds were Yellow, White, Spotted and Partridge Hungarian color varieties and White, Black, and Spotted Transylvanian Naked Neck varieties. The second part, the summer shift, was only partly a table chicken test. Partridge color Hungarian variety was used, and the roosters were transported to be slaughtered, while the hens were left for the third year to become laying hens on a next (third) rotation section. The laying hens were transplanted to the 2007 section in November to the red clover section to start the laying phase in spring without disturbance.

Live weight of the birds was continuously registered in each test, and egg production was recorded in case of laying hens during the 2007 shift. Weed surveys were carried out before each poultry shift and after the transportation for slaughter test. During the first two years, 2005-2006, several soil chemical and biological tests were made to get a closer look on pH changes, NPK level changes, and microbiological activity.

Poultres are well adaptable into special mixed crop rotation. Chicken tractor has the advantage of depressing the weeds, giving manure to the plot, and preparing the soil for the coming crop rotation section by scratching. It was clear that the chicken tractor is not as effective against the strong and mature weeds as against the young ones. The most effective way is using them on the ground in a high density, but keeping the organic rules with the continuous presence from early spring until early winter.

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