

## Study on Cropping Systems of Organic Vegetables

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### Abstract

The purpose of this research was to study the effect of rotation sequence on vegetables production. Fifteen kinds of vegetables and one kind of green manure crop, *Sesbania cannabina*, were grown at different plots of the same field. After harvesting, one of the crops was chosen as main crop and planted immediately at all plots. From the development and yield of the main crop, what kind of vegetables is suitable to plant as previous crop can be known. During 1997 to 2001, six main crops had been planted as follows: celery, green onion, garland chrysanthemum, cabbage, soybean and lettuce. The results showed that the yields of continuous cropping of celery, garland chrysanthemum, cabbage and soybean were decreased significantly. The yield of soybean increased more than 41% when it was planted after celery, mustard, garland chrysanthemum, green onion or *Sesbania cannabina* compared with continuous soybean. Forty percent increase in celery yield was observed when it was planted after green onion, soybean or *Sesbania cannabina* than continuous celery. Twenty percent increase in garland chrysanthemum yield was observed when it was planted after mustard, green onion or soybean than continuous garland chrysanthemum. Ten percent increase in cabbage yield was observed when it followed edible amaranth, garland chrysanthemum or green onion. However, the 1-35% increase in yields of continuous green onion and lettuce rather than after other crops were observed. In the view point of nutrient, the factors responsible for increasing yield of celery after soybean, *Sesbania cannabina*, green onion and lettuce may be due to increasing in nitrogen

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supply and less nutrient uptake. In summary, green onion and lettuce are suitable for monoculture; celery is suitable for growing after green onion, soybean or *Sesbania cannabina*; garland chrysanthemum is suitable for growing after mustard, green onion or soybean; cabbage is suitable for growing after garland chrysanthemum or green onion; soybean is suitable for growing after celery, garland chrysanthemum, or green onion. We also suggest that putting green onion and legumes in cropping system of organic vegetables at right time will be helpful to increase yield.

Key words: Organic vegetable, Crop rotation, Monoculture