

Miscellany

Mixed cropping of ginger (*Zingiber officinale* Rosc.) and maize (*Zea mays* L.)

Ginger (*Zingiber officinale* Rosc., Zingiberaceae), a perennial herbaceous spice crop, is usually grown as an annual by small and marginal farmers in Kerala, West Bengal, Meghalaya, Karnataka, Sikkim and Mizoram in India. Ginger is cultivated as a sole crop or as an intercrop with vegetables, pulses, cereals, oil seeds and other crops. Ginger is also grown as a mixed crop with castor, redgram, finger millet and maize. As ginger requires partial shade, it can also be grown under many tree crops. Most of the farmers in Sikkim believe that raising ginger with maize (*Zea mays* L.) gives more yield than sole crop (Patiram *et al.* 1995). Maize provides shade during the early period of growth and after harvesting of maize, the ginger crop is exposed to the open atmosphere which favours the development of bolder rhizomes.

An observational trail was laid out at Indian Institute of Spices Research,

Calicut, on mixed cropping of ginger and maize under rainfed conditions and the results are presented here. During the second week of June 1998, 40 seed pieces of ginger variety Varada (20-30g/piece) were planted at 25 cm x 30 cm spacing on 3 m x 1 m raised beds and maize (bulk) planted at four corners of the bed (two seeds were dibbled and after germination, one plant thinned out). Ten kg of farmyard manure per bed was applied at the time of planting. Cultural practices like mulching (with mixed green leaf 15 kg/bed at planting and after 45 days of planting) and earthing up at 45 days of planting were done. Maize was harvested at 90-100 days after planting and ginger harvested after 8 months of planting.

Sixty maize cobs were harvested from 40 plants in 10 beds and sold @ Rs. 2/ cob and 12 kg straw was also obtained (Table 1). Singh *et al.* (1995) recorded highest maize-equivalent yield in pure

Table 1. Effect of mixed cropping on growth and yield of ginger

Cropping system	Sprouting (%)	Total tillers/bed	Rhizome yield (fresh) (kg/bed)	Maize yield from 10 beds	
				Cob	Straw (kg)
Sole ginger	94.75	211.7	12.63	-	-
Ginger and maize	99.50	245.8	13.25	60	12
t-test (5%)	NS	NS	NS	-	-

NS = Not significant

ginger, followed by maize + ginger at 1:2 and 1:1 ratios under maize + ginger intercropping system in humid hilly soils of Sikkim and also application of 180:120:80 kg N, P₂O₅ and K₂O/ha gave significantly higher maize and ginger yields. The trial indicated that maize can be grown with ginger for grain and fodder or for more returns without affecting crop growth and yield of ginger under Kerala conditions also.

References

Patiram, Upadhyaya R C & Singh L N
1995 An appraisal of ginger

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Singh A, Awasthi R P, Singh R D & Arya R L 1995 Effect of inorganic fertilizers in maize (*Zea mays*) + ginger (*Zingiber officinale*) intercropping system in humid hilly soils. Indian J. Agron. 40 : 549-552.

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