

ratio. Thus intercropping of soybean with niger would boost the total oilseed production and fetch more economic return for the farmers.

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Performance of chilli (*Capsicum annuum*) under different intercropping systems and fertility levels

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A field experiment was conducted at Main Research Station, Dharwad, during the rainy (*kharif*) season of 1989. The soil was medium deep black clay soil having total soil nitrogen 0.064%, available phosphorus 0.008% and available K_2O 0.014%, with pH 7.6. The total rainfall received during the crop season (July–November) was 391.50 mm. The factorial experiment was laid out in randomized block design with 4 replications. Fifteen treatment combinations comprising 3 intercropping systems, viz. chilli (*Capsicum annuum* L.) + garlic (*Allium sativum* L.), chilli + onion (*Allium cepa* L.) and chilli + coriander (*Foeniculum vulgare* L.); and 5 fertilizer levels, viz. recommended dose of NPK alone for both crops, recommended dose of NPK + farmyard manure for both the crops, 50% of recommended dose of NPK + farmyard manure for both crops, farmyard manure alone for

both crops and no NPK and farmyard manure (control). The common spacing of 30 cm x 75 cm was followed for garlic, onion and coriander except chilli (90 cm x 45 cm).

The number of chilli fruits produced under different intercrops did not differ significantly with each other (Table 1). However, chilli + garlic combination recorded highest number of fruits/plant. The recommended dose of fertilizer + farmyard manure recorded more number of fruits/plant (25.47) and the lowest in the control (11.60). This was due to favourable influence of fertilizers on chilli crop as fruit number was the highest.

Chilli + garlic combination recorded the highest dry weight/fruit (0.86 g). Among the fertilizer levels, recommended dose of fertilizer + farmyard manure recorded the highest dry weight of chilli fruit (0.76 g). However, lowest dry weight of fruit (0.54 g) was

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Table 1. Effect of garlic, onion and coriander intercrops and fertility levels on yield attributes of chilli

Treatment	Fruits/plant				Dry weight/fruit				Dry-chilli yield (q/ha)			
	Chilli + garlic	Chilli + onion	Chilli + coriander	Mean	Chilli + garlic	Chilli + onion	Chilli + coriander	Mean	Chilli + garlic	Chilli + onion	Chilli + coriander	Mean
Recommended dose of NPK alone	23.33	23.00	18.53	21.62	0.89	0.71	0.54	0.71	3.70	3.34	2.67	3.24
Recommended dose of NPK + FYM	24.80	24.27	27.33	25.47	0.96	0.70	0.63	0.76	5.77	3.80	3.80	4.46
50% recommended dose of NPK	24.47	24.53	24.20	24.40	0.89	0.74	0.50	0.71	4.11	3.34	3.22	3.56
FYM alone	21.53	15.00	11.60	16.04	0.85	0.72	0.46	0.74	3.90	2.60	2.69	3.06
Control	30.00	10.40	11.40	11.60	0.70	0.49	0.43	0.54	1.86	1.96	1.69	1.84
Mean	21.43	19.44	18.61	19.83	0.86	0.67	0.51	0.68	3.87	3.00	2.69	3.19
<i>CD (P = 0.05) for</i>												
Intercrops		NS				0.12				4.19		
Fertilizer		5.95				0.16				5.41		
Intercrops x fertilizer		NS				NS				NS		

FYM, Farmyard manure

NS, Non-significant

recorded in the control. Similar observations were also reported by Patil (1981) in chilli + cotton cropping systems.

The highest dry yield of chilli was recorded with chilli + garlic combination (3.87 q/ha). It was maximum with recommended dose of fertilizer + farmyard manure (4.46 q/ha). The increase was owing to more number of fruits and dry weight of fruit. Chilli + garlic intercropping

combination with recommended dose of fertilizer + farmyard manure recorded the maximum dry yield of chilli (5.77 q/ha) during the study.

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Cane yield and water-use efficiency of autumn-planted sugarcane (*Saccharum officinarum*) under sole and intercropping stand at different levels of irrigation

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A field trial was conducted during 1991–92 at Chiplima, Sambalpur (Orissa), on sandy-clay loam soil with autumn-planted sugarcane (*Saccharum officinarum* L.). The treatments consisting of 3 cropping systems, viz. sugarcane sole, sugarcane + wheat (*Triticum aestivum* L. emend. Fiori & Paol.), sugarcane + Indian mustard [*Brassica juncea* (L.) Czernj. & Cosson], and 3 levels of IW : CPE (0.8, 1.0 and 1.2) were tried in randomized block design with 3 replications. Sugarcane 'Co 6304' was planted on flat-bed rows 80 cm part on 11 October 1991 and Indian mustard 'M 27' (1 : 2) and wheat 'Sonalika' (1 : 4) were sown on 9 and 4 November 1991 respectively. The

sugarcane was fertilized with a basal dose of 100 kg P_2O_5 /ha and 60 kg K_2O /ha. Nitrogen was applied @ 225 kg/ha in 3 equal splits, at 30, 90 and 120 days after planting. The recommended dose of NPK was applied to intercrops of wheat and Indian mustard as per sole crop, i.e. @ 120, 60 and 60 kg N, P and K/ha, respectively for wheat; and 40, 20 and 20 kg N, P and K/ha for Indian mustard (50% N and full of P and K as basal and 50% N 21 days after sowing). Indian mustard, wheat and sugarcane were harvested on 30 January, 22 February and 16 December 1992 respectively.

Significantly highest cane yield of 131.60 tonnes/ha was obtained from sugarcane sole