

## Profitability in Baby Corn—Legume Inter Cropping System

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### Abstract

Field experiments conducted in West Bengal in 2003 and 2004 revealed that baby corn with intercrop was highly remunerative than baby corn as sole crop in both *kharif* and *rabi* seasons and the economic gain in baby corn + soybean and baby corn + pea was high during *kharif* and *rabi* seasons respectively.

**Key words :** Baby corn, Intercrop, Legume, Economic gain.

Baby corn, a new economic product of maize (*Zea mays* L.) is little known to the maize growers in India. The term baby corn refers to young ear of maize harvested just at the time of silk emergence (3—4 cm) and before fertilization (1). The finger-like young ear, dehusked and desilked is served as a specialized vegetable. Its delicacy, sweet flavor and crisp nature have increased its popularity mainly in abroad and partly in India, as a common ingredient of Manchurian (Chinese) and various fancy dishes (2). Its high economic return (3) and value addition are increasing its popularity. Depending on agro-climatic conditions, 3—4 crops of baby corn can be taken from the same field in a year, giving good profit per hectare per season (4). Among various agro-practices the information regarding intercropping system of baby corn is scanty. However, Sayampol and Changsalak (5) studied the intercropping systems with baby corn in Thailand and found the increasing profit to it. Present investigation was therefore undertaken to study the performance of different intercrops with baby corn during two major crop seasons in each of two years in new alluvial zone of West Bengal.

### Methods

Four experiments were conducted during *kharif* and *rabi* seasons in 2003 and 2004 at BCKV farm, Kalyani, West Bengal. Randomized block design having four replicates with a plot size of 5 m × 3 m was followed. Row arrangement for baby corn and associated component was alternate (1 : 1). Fertilizers were applied based on recommended dose of each compo-

nent crop. Other cultural practices for associated components were followed according to their standard practices. Cultural practices standardized by Prodhhan (6) were followed for growing baby corn.

In *kharif* experiments (2003 and 2004), the treatments consisted of four sole crops (baby corn, green gram, soybean and cowpea) and three baby corn based intercropping systems. Spacing given for sole crops of baby corn, green gram, soybean and cowpea were : 60 cm × 12.5 cm, 30 cm × 10 cm, 45 cm × 10 cm and 30 cm × 20 cm, respectively, while for intercrop stands inter row spacing was 60 cm and intra row spacing as was practiced in monocultures. Cultivars used were VL-42, Panna, Soymax and Falguni for baby corn, green gram, soybean and cowpea, respectively.

In *rabi* experiments (2003 and 2004), the treatments consisted of four sole crops (baby corn, spinach, pea and rapeseed) and three intercrops with baby corn. Spacing given for sole crops of baby corn, spinach, pea and rapeseed was : 60 cm × 12.5 cm, 20 cm between rows, 22.5 cm between rows and 30 cm row to row, respectively, while for intercrop stands inter row spacing was 60 cm and intra row spacing was adopted as was practiced in monocultures. The varieties used in these experiments were VL-42, local spinach, Arcle and Binoy for baby corn, spinach, pea and rapeseed respectively.

### Results and Discussion

From the result of *kharif* experiments (2003 and 2004) it was revealed that there were significant dif-

**Table 1.** Effect of inter crops on baby corn production during *kharif* season 2003 and 2004. BC= Baby corn, GG=Green gram, SB = Soybean, CP= Cowpea.

Crop	Dehusked yield of baby corn (kg/ha)	Seed yield of GG (kg/ha)	Seed yield of SB (kg/ha)	Seed yield of CP (kg/ha)	Total return (Rs)	Net return (Rs)
BC	1034.00				64200.00 (4)	51200.50 (4)
GG		990.00			24750.00 (6)	19675.00 (6)
SB			1605.00		28890.00 (5)	23815.00 (5)
CP				1252.00	18783.75 (7)	13708.75 (7)
BC + GG	915.00	581.00			72775.00 (2)	58255.00 (2)
BC+ SB	921.00		1014.00		76802.00 (1)	62257.00 (1)
BC + CP	883.00			890.00	70000.00 (3)	55480.00 (3)
SE	45.896	38.60	44.87	51.56	1911.883	1910.514
CD 5%	120.522	94.45	109.79	126.16	4016.86	4013.98
CV %	9.78				7.51	9.405

ferences in yield among the sole crops (Table 1). Soybean gave the highest yield (1605.00 kg/ha) followed by cowpea, baby corn and green gram. Nearly 50% of yield reduction of three component crops was observed ; however, intercrop yield of baby corn in each system was recorded to be lower as compared to its sole crop yield. Baby corn gave highest yield (921.00 kg/ha) when it was intercropped with soybean followed by its intercropping with green gram and cowpea. However, it was found that the performance of three intercropping systems was statistically at par.

From the economic point of view it was observed that baby corn gained highest net return (Rs 51,200.50/ha) among all the sole crops. Among all the intercrop combinations, BC + SB gained highest net return (Rs

62,257.00/ha), followed by BC + GG and BC + CP, where net return of BC + SB and BC + GG were statistically at par.

Hence, it is concluded that during *kharif* season baby corn with inter crop was highly remunerative than baby corn as sole crop, and economic gain by baby corn + soybean was highest.

In *rabi* experiments (2003 and 2004) the results indicated that there were significant yield differences among the sole crops (Tables 2). Spinach showed the highest yield (13,249.00 kg/ha) followed by pea, baby corn and rapeseed. Nearly 50% of yield reduction of three component crops was observed. Baby corn gave the highest yield (1,191.5 kg/ha) when it was intercropped with spinach followed by pea and rapeseed.

The highest net return (Rs 55,612.50/ha) was ob-

**Table 2.** Effect of intercrops on baby corn production during *rabi* seasons, 2003 and 2004. BC= Baby corn, SN=Spinach, PE = Pea, RS= Rapeseed.

Crop	Dehusked yield of baby corn (kg/ha)	Seed yield of SN (kg/ha)	Seed yield of PE (kg/ha)	Seed yield of RS (kg/ha)	Total return (Rs)	Net return (Rs)
BC	1222.25				73612.50	55612.50 (4)
SN		13249.00			26498.00	20423.00 (5)
PE			3880.75		27165.25	19115.25 (7)
RS				1104.75	22095.00	19520.00 (6)
BC + SN	1191.5	6296.50			84668.00	63643.00 (2)
BC + PE	1182.25		2519.25		89247.50	67222.25 (1)
BC + RS	1151.75			534.25	80862.50	60287.50 (3)
SE	18.33	631.60	259.72	57.11	1335.757	1335.761
CD 5%	41.48	1545.52	635.53	139.74	2806.425	2806.433
CV%	4.36				4.62	6.11

tained from baby corn among the sole crops. BC +PE gained highest return (Rs 67,222.25/ha) followed by BC + SN and BC + RS.

Thus, it is inferred that baby corn with inter crop was highly remunerative than baby corn as sole crop and the economic gain by baby corn + pea was significantly high accompanied by baby corn + spinach and baby corn + rapeseed during *rabi* season.

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