

COBc1 - A NEW BABY CORN COMPOSITE FOR TAMIL NADU

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ABSTRACT

BC 2, is a baby corn composite suitable for irrigated and rainfed situations. Each plant can yield 2 to 3 cobs and the tender cobs can be harvested between 50 and 65 days after sowing before fertilization. It has an yield potential of 8316 kg baby corn and 32.2 tonnes of green fodder per hectare. It is moderately resistant to sorghum downy mildew diseases and tolerant to major pest of maize. It possess high starch (7.1 per cent) and delightful sweet flavour (total sugars 1.3 per cent) than the local baby corn. It serve as a valuable nutritious energy source with the attractive standard size cob (9 to 10 cm) suited for export market and released as CoBc 1 (1988).

KEY WORDS: CoBc 1, Baby corn, Composite, Fodder

In Tamil Nadu, maize is mostly used for industrial purposes as well for animal and poultry feeds. An interesting recent development is of growing maize for edible purpose as 'baby corn'. Baby corn is the young cob of the maize plant and it can be harvested when the silks have just emerged (1 to 3 cm) before fertilization. The young green cobs are then appropriately dehusked and used as such for consumption. The dehusked young ear is served as a vegetable in star hotels and road side food stalls in foreign countries. It is mainly used for preparation of soup, vegetable salads, Chinese and European food items.

It is a venture that proved economically successful in countries like Thailand and Taiwan. Attention is now being paid to explore its potential in India. In recent years, the Department of Millets, Centre for Plant Breeding and Genetics, TNAU, Coimbatore have started a research on the development of Baby corn variety suited for edible purposes. With the result, a new baby corn composite CoBc 1 was developed for commercial cultivation in the state of Tamil Nadu.

MATERIALS AND METHODS

The available inbred lines in gene bank were screened for edible purposes. The BC 2 baby corn composite was developed by selection involving UMI 836 as base material combining with related populations of UMI 836-1-2. It was evaluated in station trials at Department of Millets with recommended spacing of 45 cm x 20 cm and a nutrient dose of 150 kg. nitrogen, 60 kg.

phosphorus and 40 kg. of potash per hectare. The results of station trials and adaptive research trials are presented in Table 1 and 2.

RESULTS AND DISCUSSION

The composite baby corn BC 2 was tested at Department of Millets from rabi 1994 to kharif 1997

Table 1 : Performance of Baby Corn 2 at Millet Breeding Station, Coimbatore

Sl.No.	Year	Tender cob yield (kg/ha)		Green fodder yield (t/ha)	
		BC 2	BC local	BC 2	BC local
I. Irrigated					
1.	1994 (R)	5915	4215	35.6	37.8
2.	1995 (K)	6885	6115	27.2	31.9
3.	1995 (R)	5300	4583	36.5	39.2
4.	1996 (K)	8316	7815	29.2	30.2
5.	1996 (R)	6675	5395	32.2	32.9
6.	1997 (K)	7215	6110	29.1	31.3
	Mean	6718	5705	31.6	33.9
	% on BC local	117.7	100.0	93.2	100.0
II. Rainfed					
7.	1996 (K)	6152	5265	35.4	36.1
8.	1997 (K)	6825	6420	32.3	32.5
	Mean	6488	5842	33.8	34.3
	%on BC local	111.0	100.0	98.5	100.0
	Overall Mean	6660	5615	32.2	34.0
(Irrigated & Rf.)					
	% on BC local	118.6	100.0	94.7	100.0

Table 2 : Performance of Baby corn 2 in ARTs under different districts of Tamil Nadu (1996-97)

Districts	Irrigated		Rainfed	
	No. of trials	Tender cob yield kg/ha	No. of trials	Tender cob yield kg/ha
1. Kancheepuram	8	2096	4	1165
2. Vellore	8	2184	3	2353
3. Madurai	3	3254	-	-
4. Erode	4	4066	4	4706
5. Tuticorin	4	2794	4	2566
6. Coimbatore	8	3045	4	2851
7. Dindigul	8	4541	4	3388
8. Dharmapurai	5	2510	1	2100
9. Salem			4	1746
Mean	48	3014	28	2673
Overall Mean (Irrigated & Rainfed)	76	2889		

Table 3 : Reaction of Baby Corn 2 to major diseases and pests under field and artificial conditions.

Name of the variety	Diseases				Pest	
	Dowry mildew (%)		Turcicum leaf blight (1-5)		Pink borer	
	F	A	F	A	F	A
BC2	8.2	1.8	0.0	-	2.0	-
BC local	14.0	4.3	0.0	-	4.5	-

F = Field condition

A = Artificial condition

Table 4 : Results of quality analysis of maize samples

S.No.	Samples	Moisture (%)	Total CHO	% on fesh weight basis		Non reducing sugars	Reducing sugars
				Starch	Total sugars		
1.	BC2	87.42	10.22	7.10	1.26	0.70	0.56
2.	BC local	88.00	9.60	6.54	1.02	0.66	0.36

and it recorded a mean tender cob yield of 6660 kg/ha in 50-65 days with 18.6 per cent increase tender cob yield over local baby corn (5615 kg/ha; 66-82 days). It has an yield potential of 8316 kg/ha of baby corn and 32.2 tonnes of green fodder per hectare (Table 1). The baby corns can be picked

from the 50th day of sowing at an interval of two days. Six to seven picking can be had from a crop with a duration of 50-65 days. The green fodder can be cut immediately after picking the tender cobs and it is used as a palatable green fodder for cattles.

In the 76, adaptive research trials conducted in the farmers holding at different districts during 1996-97, it gave a mean tender cob yield of 3014 and 2673 kg/ha both under irrigated and rainfed conditions respectively (Table 2). As rainfed crop it can be sown in June-July and September-October seasons. Under irrigated conditions, it can be raised all through the year.

The baby corn composite CoBc 1 is moderately resistant to sorghum downy mildew and is tolerant to major pest of maize (Table 3). The tender cobs of CoBc 1 possess desirable attributes such as high starch (7.1 per cent) and delightful sweet flavour (total sugars 1.3 per cent) than the imported baby corn (Table 4). It can serve as a valuable nutrition energy source with the attractive standard size cob (9-10 cm) and best fitted for export. The mature yellow kernels are arranged in straight rows and have good texture.

Apart from the benefit to the farmers, baby corn also has an immense value as a foreign exchange earner for the country. In view of the superior performance and growing demand, Tamil Nadu Agricultural University, Coimbatore has released the composite baby corn BC 2 as CoBc 1 during 1998 as pongal gift to farmers for growing in home gardens and commercial cultivation in the state of Tamil Nadu.

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