

Co. 32. An improved rice strain in Thiruchengode samba *

by

V. SRINIVASAN¹ and P. ANNAMALAI²

Synopsis : Thiruchengode *samba* is a popular variety cultivated extensively in the upper reaches of Kalingarayan channel area in Erode taluk, parts of Salem district and Lower Bhavani project area. Pureline selection work in this local variety carried out at Paddy Breeding Station, Coimbatore resulted in fixing up a high yielding selection and releasing it as improved strain Co. 32 for general cultivation by ryots.

The new rice strain Co. 32 isolated from variety Thiruchengode *samba* will benefit an area of about 40,000 acres in Kalingarayan channel ayacut of Erode taluk, Lower Bhavani project area and parts of Salem district. It has medium grain and white rice with a duration of 135 days from sowing to harvest and is suitable for growing during August-December season. It has recorded an average grain yield of 1653 kg. per acre at Paddy Breeding Station, Coimbatore and 1840 kg. of grain per acre in the district trials. Besides it has also better outturn of rice in hulling recording 78.5 per cent of rice to paddy by weight with an increase of 3.5 per cent over ryots' bulk. It also possesses desirable cooking qualities with an expansion of 4.2 times by weight and 5.5 times by volume, on cooking.

Pureline selection work in the local variety with representative samples collected from the Kalingarayan tract was started during 1950-'51 at Paddy Breeding Station, Coimbatore. Screening of the promising materials was under progress from 1950-'51 and 51 selections with desirable attributes were carried forward to preliminary yield trial. Out of the 51 selections, 21 were advanced for comparative yield trial from which five promising selections were tested for confirmatory results. This has resulted in the isolation of two selections 32152 and 32159 by virtue of their significant increase in yield over the standard for three years with an average increased yield of 26.2 per cent over the Thiruchengode *samba* standard. The yield data of the comparative yield trials of the two selections at Paddy Breeding Station, Coimbatore from 1958-'59 to 1963-'64 are furnished in Table I.

The two selections 32152 and 32159 were also sent for district trials in ryots' holdings at 11 centres for three years from 1961-'62. The results

TABLE I
Results of comparative yield trials conducted with Thiruchengode samba cultures at Paddy Breeding Station, Coimbatore.

Thiruchengode samba standard Acre yield kg.	Percentage	32152 Acre yield kg.	Percentage over standard	32159 Acre yield kg.	Percentage over standard	Standard Error per acre	Percentage over standard	F. Test satisfied or not	Critical difference	
									Per acre	Percentage over standard
1496	100	1769	118.3	...	...	...	...	...	...	...
1158	100	1619	140.9	1506	130.0	217.0	8.5	Satisfied	626.3	24.5
460	100	881	191.5	644	139.0	98.1	21.35	Satisfied	285.4	62.1
1539	100	1686	109.6	...	...	55.87	3.63	Not satisfied	...	...
1534	100	1688	110.1	...	...	68.86	4.36	do.	...	...
1856	100	1933	104.1	1921	103.5	41.22	2.22	Satisfied	121.59	6.55
1712	100	1869	109.1	1820	106.3	32.72	1.9	Not satisfied	...	...
1394	100	1635	126.2	1473	119.7	...	...	...	...	...

TABLE II

Results of Trials conducted in the Districts from the year 1961-'62 to 1963-'64

District	Taluk	Village	Acre yield kg.	32152 Percent-tage	Acre yield kg.	32159 Percent-tage	Tiruchengode Samba Acre yield kg.	Percent-tage
Salem	Omalur	Chinnamettur	1663	104.7	1603	100.9	1588	100.0
Salem	Tiruchengode	Molasi	1043	119.4	817	93.3	873	100.0
Salem	Sankari	Koneripatty	1497	104.7	1293	90.0	1429	100.0
Coimbatore	Erode	Perumalpalayam	2086	115.0	2313	127.5	1814	100.0
Coimbatore	Bhavani	Urachikottai	2694	179.0	2776	184.4	1505	100.0
Salem	Sankari	Pakkanadu	1505	140.6	1433	134.0	1070	100.0
Salem	Omalur	Kasavureddi-patty	2629	102.4	...	...	2567	100.0
Coimbatore	Erode	Kathupalayam	2300	104.5	2300	104.5	2200	100.0
Salem	Sankari	Nedungulam	2576	118.3	...	...	2177	100.0
Coimbatore	Erode	B. P. Agraharam	1633	109.0	1723	115.1	1497	100.0
Salem	Omalur	Karuppur	2011	122.0	...	...	1648	100.0
Salem	Omalur	Kolathur	1207	110.8	...	...	1089	100.0
Coimbatore	Bhavani	Ayyampatty	1524	125.4	...	...	1215	100.0
Coimbatore	Erode	Pitchandam-palayam	1537	111.5	1406	101.9	1379	100.0
Salem	Sankari	Pullagoundam-patty	1850	96.2	2068	107.5	1923	100.0
Salem	Tiruchengode	Pallipalayam	1873	108.4	1760	102.1	1724	100.0
Salem	Omalur	Navapatty	1667	104.0	1733	108.3	1600	100.0
		Average	1841	116.2	1768.75	114.1	1605	100.0

of the selection 32152 as it has recorded 1840 kg. of grain yield per acre with an average increase of 16.2 per cent over the ryots' bulk. The results are presented in Table II.

The better yield performance combined with other desirable qualities of the selection 32152 was in its favour for release as an improved strain, Co. 32.

Co. 32 will eventually replace the local variety in the tract and enhance rice production since this strain has adaptability for river project areas. It will benefit about one lakh acres under the Lower Bhavani Project and other similar project areas.

Description of Co. 32 :

- Habit: Erect
- Leaf-sheath: Green
- Axil: Green
- Internode: Green
- Leaf junction: White
- Auricle: White
- Ligule: White
- Pulvinus: Green
- Septum: Cream
- Leaf blade: Normal
- Flag leaf: Medium acute
- Emergence: Good 2" to 3"
- Sterile glume: White short
- Fertile glume (Lemma & Palea): Green in early stages and straw at ripening (GT)
- Pigmentation: Absent
- Awn: Awnless
- Panicle: Medium, Compact and partially drooping.
- Grain size: Medium, Fine
 - Length: 7.5 mm.
 - Breadth: 2.2 mm.
 - Thickness: 1.6 mm.
- Weight of 1000 grains: 18.48 grams
- Percentage of grain to husk: 68.0 per cent (Raw Rice)
- Milling Quality: Good