

CO 4: A NEW HIGH YIELDING SUNFLOWER

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ABSTRACT

Sunflower CO 4 (TNAU SUF 7) is a hybrid derivative of the cross Dwarf x Surya. It is a high yielding open pollinated variety of medium duration group, maturing in 85 days. It recorded an overall mean seed yield of 1255 kg/ha. The percentage of increase yield over the checks (Co2, Co3, Morden and EC 68414) ranged from 14.9 to 52.5. The seed contains 39.7 per cent oil. In view of its superior performance in respect of seed yield, high oil content, wider adaptability and tolerance to pest and diseases, this culture was released as CO4 sunflower in Tamil Nadu.

KEY WORDS: Sunflower, Variety, Release

Sunflower (*Helianthus annuus* L.) is a major edible oilseed crop. The crop is widely grown in Karnataka, Andhra Pradesh and Tamil Nadu. The area under sunflower is increasing every year and is spreading to non traditional areas. Research efforts were taken in Tamil Nadu Agricultural University to evolve high yielding varieties of sunflower to increase the overall production of oilseeds.

MATERIALS AND METHODS

In an attempt to evolve a high yielding variety of sunflower, crosses were effected with elite parental lines at the Department of Oilseeds, School of Genetics, Tamil Nadu Agricultural University, Coimbatore. One combination 'Dwarf x Surya' was identified as promising during 1985. The progenies of this combination were evaluated from 1985 to 1988 and an open pollinated entry TNAU SUF 7 was identified as high yielder combined with high oil content and other economic characters.

RESULTS AND DISCUSSION

Extensive trials conducted at National level and in Tamil Nadu for the past seven years revealed its superiority and wide adaptability. It has performed well both under *khari*f and *rabi* seasons (Table 1). It is suitable for irrigated and rainfed situations of Tamil Nadu.

The culture TNAU SUF 7 (Table 1) recorded an overall mean seed yield of 1255 kg/ha while the checks CO 2, CO 3, Morden and EC 68414 have recorded 877, 839, 1096 and 823 kg/ha respectively. The percentage of increase yield over the checks ranged from 14.9 to 52.5. In addition to high yield, TNAU SUF-7 is endowed with high oil content with large sized heads (Table 2).

This culture is tolerant to jassids, leaf hoppers and ash weevil and also to *Alternaria* and rust diseases compared to the checks

Table 1. Mean performance of TNAU SUF-7 in different trials conducted both in *Khari*f and *rabi*

Name of the trial	No. of trials	Seed yield (kg/ha)				
		TNAU SUF7	Co2	Co3	Morden	EC 68414
Station trial						
Kharif	6	1290	758	839	-	-
Rabi	2	951	703	-	-	611
Multilocation trial (T.N)	4	994	956	-	-	709
Adaptive Research Trial (Tamil Nadu)	26	1258	1090	-	1190	-
Front line demonstration (Tamil Nadu)	6	1752	-	-	1186	-
All India Coordinated Research Project on Oilseeds	1287	-	-	911	1150	-
Mean	140	1255	877	839	1096	823

% Over Morden 14.9; % Over Co2 43.0; % Over Co3 49.6; % Over EC 68414 52.5

Table 2. Oil content and other ancillary characters of sunflower

Entry	Oil content (%)	Head diameter (cm)	100 seed weight (g)	Plant height (cm)	Duration (days)
TNAU SUF 7	39.7	15.5	5.6	158.5	85
CO 2 (check)	37.4	15.0	4.5	155.3	87
CO 3 (check)	38.3	15.5	5.5	168.3	88
Morden (check)	36.4	14.1	4.8	99.8	83
EC 68414 (check)	36.2	15.3	5.5	161.9	90

In view of its superior performance in respect of seed yield, high oil content, wider adaptability and tolerance to pests and diseases, this culture was released as CO4 sunflower in Tamil Nadu during 1996 for general cultivation.

Morphological character of sunflower variety CO4

Description of Variety: Plant height : 145-175 cm
 Stem : Profusely hairy
 Leaves : Large green
 Head : Large
 Head diameter : 13-16 cm
 100 seed weight : 5 to 6 g
 Seed colour : Dark grey-black Presence of stripes on the seed coat
 Oil content : 39.7%
 Yield : 1255 kg/ha
 Duration : 85 days

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VRI 4: A NEW GROUNDNUT VARIETY FOR TAMIL NADU

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ABSTRACT

VG 8918 is a bunch type groundnut maturing in 105-110 days. It is a derivative of the cross VG 5 x NCAC 17090. It has recorded a mean pod yield of 1660 kg/ha under rainfed and 2171 kg/ha under irrigated conditions. The soluble sugar and protein contents of the kernel are higher than VRI-2 and Co 2. The quality of the oil is also graded better than VRI-2 and Co 2 as the ratio between oleic/linoleic fatty acids is higher. Culture VG 8918 was released as VRI 4 by the State Variety Release Committee of Tamil Nadu during January 1996.

KEY WORDS : Groundnut, VRI 4, New Variety, Soluble Sugar, Protein Oil Quality

Groundnut (*Arachis hypogaea* L.) is one of the important oilseed crops of Tamil Nadu. Though many high yielding varieties have been released for general cultivation, there is not much variation among them in respect of quality of kernel and oil. Hence, breeding work was initiated at the Regional Research Station, Vridhachalam in this direction and as a result, the culture VG 8918 was evolved.

MATERIALS AND METHODS

A Virginia bunch groundnut culture VG 5 was hybridised with NCAC 17090, a Valencia type of Peruvian land race. From the segregating progenies, culture VG 8918 was fixed in F₅ generation. This culture was identified as a high yielding type with

high sugar and protein content, besides with higher ratio of oleic / linoleic fatty acid composition. It is a bunch type maturing in 105-110 days. It had been evaluated in station trials since 1989. Based on its superior performance, this culture was promoted to multilocation trials (MLT) and evaluated in various research stations of the University during 93-94 and based on the superior performance, it was nominated for adaptive research trials (ART) during *kharif* 94 and *rabi/summer* 94-95 seasons and evaluated in farmers holding in different districts of the state. Simultaneously, it was evaluated in All India Coordinated Trials during *kharif* 94 and *kharif* 95 seasons. The data from all those trails were consolidated and considered for the release of the variety.