



## Research Article

# TMV ( Sv) 7 – A high yielding cosmopolitan sesame variety

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### Abstract:

The sesame culture TVS 0039 is a hybrid derivative of Si 250 x ES 22. It is an high yielding sesame variety with brown colour seed. It matures in 85- 90 days. TVS 0039 has recorded a mean yield of 737 kg/ha which is 12.8, 26.9 and 14.0 % superior to TMV 3, VRI (Sv) 1 and VRI(Sv 2), respectively under rainfed condition. During summer season, the culture registered an average yield of 781 kg/ha which is 25.6, 20.5, 34.3 and 27.8 % increase over VRI (Sv) 1, VRI (Sv 2), TMV 4 and TMV 6 respectively. The seeds are brown coloured with an oil content of 51.0 per cent. The culture is also tolerant to root rot disease.

**Keywords:** TMV (Sv) 7 sesame, yield.

Sesame (*Sesamum indicum* L.) is one of the world's oldest spice and oilseed crop grown mainly for its seeds that contain approximately 50% oil and 25% protein. In Tamil Nadu, it is being cultivated in an area of 65,118 lakh ha with a production of 30,772 tones (Anonymous, 2005-06). The productivity was 469 kg / ha . Mostly sesame varieties viz., TMV 4, TMV 6, VRI 1, VRI 2 are cultivated during *rabi* / *summer* season. However, the variety TMV 3 is a cosmopolitan variety cultivated through out the year but the colour of the seed is black and the marketability of the variety is poor. Hence, in order to replace the old varieties, an attempt was made to develop a new variety with acceptable agronomic traits.

### Material and Methods

The sesame culture TVS 0039 was developed by hybridization followed by pedigree selection. It is a hybrid derivative of Si 250 x ES 22. From the segregating populations, brown seeded type was isolated and evaluated for its yield and yield contributing characters. The culture was tested in station trials during 2000 -2004. Later, it was evaluated under multilocation trials during *rabi* 2004-05 and 2005-06 and summer 2005 and summer 2006. Further, this culture was promoted for evaluation under adaptive research trials during *rabi* 2006-07, 2007-08 and summer 2007 and summer 2008. The culture was also nominated for evaluation under

AICORP (Sesame) trials during 2006-07. The entry was screened for diseases viz., root rot, *Alternaria* and powdery mildew.

### Results and Discussion

The over all performance of TVS 0039 was tested during *rabi* seasons from 2004-05 to 2007/08 and the culture has recorded a mean yield of 737 kg/ha which is 12.8, 26.9 and 14.0 % superior to TMV 3, VRI (Sv) 1 and VRI(Sv 2), respectively under rainfed condition (Table 1). Similarly, during summer season, the culture registered an average yield of 781 kg/ha which is 25.6, 20.5, 34.3 and 27.8 % increase over VRI (Sv) 1, VRI (Sv 2), TMV 4 and TMV 6 respectively (Table 2).

Performance of the culture TVS 0039 against TMV 3 and VRI (Sv) 1, VRI (Sv) 2, TMV 4 and TMV 6 during for the following seasons viz., *rabi* 2004-05 and *rabi* 2005-06 and summer 2005 and summer 2006 in MLT over 22 locations. The culture recorded a mean yield of 716 kg/ha which was 10.1, 10.07, 19.1, 10.4 and 23.0 per cent superior over the check variety TMV 3, VRI (Sv) 1, VRI (Sv) 2, TMV 4 and TMV 6 respectively.

Under ART the performance of the culture TVS 0039 tested over 180 locations during following seasons viz., *rabi* 2006-07, *rabi* 07-08, Summer 2007 and Summer 2008. In ART, the entry TVS 0039



registered a mean grain yield of 802 kg/ha which is better than TMV 3, VRI (Sv) 2, TMV 4 and TMV 6 by 22.4, 18.5, 11.1 and 6.5 per cent, respectively. The morphological description of the sesame culture is presented in Table 3. The culture TVS 0039 was tolerant to root rot. It has recorded an incidence of 8.4 per cent root rot as against 44.4 per cent of VRI (Sv) 1 (Table 4).

With all the above mentioned special features of the newly developed culture TVS 0039, it was released by Tamil Nadu Agricultural University as a new variety TMV (Sv) 7 for general cultivation for sesame growing areas of Tamil Nadu for all seasons during 2009.

#### **References**

Anonymous, 2005-06. Season and crop production report of Tamil Nadu



**Table 1. Over all Performance of TVS 0039 during rabi season for seed yield (Kg/ha)**

Year	Trial	No. Of Locations	TVS 0039	TMV 3	VRI(Sv) 1	VRI(Sv) 2
2004-05	MLT	4	747	639	573	-
2005-06	MLT	8	723	661	587	-
2006-07	ART	54	756	644	-	635
2007-08	ART	47	720	666	-	657
Mean			737	653	580	646
% increase				12.8	26.9	14.0

**Table 2. Over all Performance of TVS 0039 during summer season for seed yield (Kg/ha)**

Year	Trial	No. Of Locations	TVS 0039	VRI(Sv) 1	VRI(Sv) 2	TMV 4	TMV 6
2005	MLT	6	702	553	-	607	615
2006	MLT	4	690	690	648	556	607
2007	ART	51	803	-	-	607	615
2008	ART	28	928	-	648	556	607
Mean			781	622	648	582	611
% increase				25.6	20.5	34.3	27.8

**Table 3. Description of the variety**

a. Parentage	: Si 250 x ES 22
b. Plant height (cm)	: 95-125
Distinguishing morphological characters (as in Crop Production Guide):	
i) Stem	Light green, glabrous, profusely branched with capsules densely arranged on the main stem and branches
ii) Leaves	Glabrous, mixed in phyllotaxy
iii) Flowers	White with slight purple colour on exterior part of the corolla; one flower per axil
iv) Capsule	Two carpelled, glabrous ending in acuminate tip
v) Seed colour	brown
vi) 1000 seed weight (g)	3.1
vii) Duration	: 85-90 days
viii) Maturity group	: Medium
ix) Colour of the seed	: Brown
x) Oil content	: 51 per cent
xi) Protein content	: 21 per cent
xii) Average yield under normal conditions	: Rainfed: 743 kg/ha Irrigated : 810 kg/ha

**Table 4. Reaction of TVS 0039 against diseases**

Culture / Variety	Root rot % (Rabi 04-05)*	Root rot % (Kharif 2005)*	<i>Alternaria</i> (0-9 scale)	Powdery mildew (0-9 scale)	Phyllody(%)
TVS 0039	8.4	9.5	5.0	5.0	6.2
TMV 3	12.2	-	5.0	5.0	4.2
TMV 4	-	17.2	5.0	7.0	6.8
TMV 6	-	30.5	6.0	5.5	7.4
Co 1	18.2	-	5.5	5.0	8.5
VRI (Sv) 1	44.4	44.2	5.5	6.0	9.0

\* Screened at Cotton Research Station, Srivilliputhur