

REPORT NO.
IMP/FMT&TC, Dr.PDKV,
AKOLA/2024-25/18/304

IMPLEMENT: TRACTOR DRAWN SEED CUM
FERTILIZER DRILL
(MODEL: SA-7-SD)

TYPE: COMMERCIAL

MONTH & YEAR:
FEBRUARY & 2025

Test Report Released: 17/02/2025

Test Report Valid Up To: 29/02/2032



COMMERCIAL TEST REPORT



**TRACTOR DRAWN SEED CUM FERTILIZER DRILL
(MODEL: SA-7-SD)**



**FARM MACHINERY TESTING AND TRAINING CENTRE,
DEPARTMENT OF FARM POWER AND MACHINERY,
Dr. PANJABRAO DESHMUKH KRISHI VIDYAPEETH,
AKOLA (M.S.)-444 104
E-mail: fmtt28@gmail.com**

(The Institute is approved Testing Center, Department of Agriculture & Cooperation, Ministry of Agriculture, GOI vide letter No. 8-1/2004-My(1&P) Dated 30th March 2012-Addendum)

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MANUFACTURER

: M/S. SANDEEP AGRO WORKS,
NEAR BULDHANA URBAN WEAR
HOUSE, AKOLA ROAD AKOT,
DIST – AKOLA (M.S.) – 444 101

✓
Inward / Outward

No. PI/FMTT&PC/191/..... 2025

Dated... 21/02/2025

Report No.
FMT&TC, Dr. PDKV, AKOLA/2024-25/18/304

Month: Year:
February 2025

**FARM MACHINERY TESTING AND TRAINING CENTRE,
DEPARTMENT OF FARM POWER AND MACHINERY,
Dr. PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA
(M.S.)-444 104**

(The Institute is approved Testing Center of Department of Agriculture & Cooperation, Ministry of Agriculture,
GOI vide letter No. 8-1/2004-My(I&P) Dated 30th March 2012-Addendum)

* FARM MACHINERY TESTING AND TRAINING CENTRE, Dr. PDKV., AKOLA-444 104



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Type of test	: Commercial
Test code referred	IS: 6813-2000 (Reaffirmed in 2021) Sowing equipment - seed cum fertilizer drill – Specifications (Second revision) IS: 6316-1993 (Reaffirmed in 2019) Sowing equipment - seed - cum fertilizer drill – (First revision)
Period of test	: April, 2024 to December, 2024
Test Report No.	: IMP/FMT&TC, Dr. PDKV, AKOLA/2024-25/18/304
Month & Year	: February, 2025
<p>i) The results reported in this report are observed values and no corrections have been applied for atmospheric and site conditions.</p> <p>ii) The data given in this report pertains to the particular machine submitted by the applicant for test.</p> <p>iii) The results presented in this report do not in any way attribute to durability of the machine.</p> <p>iv) The report should not be produced in part or full without prior permission of the Head, Department of Farm Power and Machinery, Dr. PDKV, Akola (M.S.)-444 104.</p>	

SELECTED CONVERSIONS

Sr. No.	Units	Conversion Factor
1	Force	
	1 kgf	9.807 N
		2.205 lbf
2	Power	
	1 hp	1.014 metric hp (Ps)
		745.7 W
	1 Ps	735 W
	1 kW	1.360 Ps
3	Pressure	
	1 psi	6.895 kPa
	1 kgf/cm ²	98.067 kPa = 735.56 mm of Hg
	1 bar	100 kPa = 10 N/cm ²
	1 mm of Hg	1.333 m-bar



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TYPE OF MACHINE	:	TRACTOR DRAWN SEED CUM FERTILIZER DRILL
MAKE	:	M/S. SANDEEP AGRO WORKS SARJA™
MODEL	:	SA-7-SD
MANUFACTURER BY	:	M/S. SANDEEP AGRO WORKS, NEAR BULDHANA URBAN WEAR HOUSE, AKOLA ROAD AKOT, DIST – AKOLA (M.S.) – 444 101
TEST REQUESTED BY	:	M/S. SANDEEP AGRO WORKS, NEAR BULDHANA URBAN WEAR HOUSE, AKOLA ROAD AKOT, DIST – AKOLA (M.S.) – 444 101
TEST CONDUCTED BY	:	FARM MACHINERY TESTING AND TRAINING CENTRE, DEPARTMENT OF FARM POWER AND MACHINERY, Dr. PANJABRAO DESHMUKH KRISHI VIDYAPEETH, AKOLA (M.S.) PIN -444 104



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1. SCOPE OF TEST

The purpose of test was to check and assess the following: -

1.1 LABORATORY TEST: -

- Checking of specifications.
- Metering mechanism to meter seed and fertilizer at desired rate.
- Variation in dropping of seed in different openers.
- Variation of seed rate due to quantity of seed in the seed box.
- Evenness of seed distribution.
- Visible damage to seed caused by metering mechanism.
- Hardness and chemical composition of the soil engaging parts i.e. furrow openers.

1.2 FIELD TEST: -

- Rate of work.
- Quality of work
- Ease of operations and adjustments
- Labour requirement
- Breakdowns and repairs

2. METHOD OF SELECTION

The machine was randomly selected from a lot size of ten numbers of tractor drawn seed cum fertilizer drill (Model: SA-7-SD) at the manufacturing unit of M/s. Sandeep Agro Works, Near Buldhana Urban Wear House, Akola Road Akot, Dist – Akola (M.S.) – 444 101.

3. TEST PROCEDURE/CODES

The seed cum fertilizer drill was tested in accordance with the relevant test codes

IS: 6813-2000 (Reaffirmed in 2021) Sowing equipment - seed cum fertilizer drill – specifications (Second revision)

IS: 6316-1993 (Reaffirmed in 2019) Sowing equipment - seed - cum fertilizer drill – (First revision)

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4. SPECIFICATIONS

4.1 GENERAL:

a)	Name	:	Tractor Drawn Seed Cum Fertilizer Drill
b)	Type	:	Seed Cum Fertilizer Drill
c)	Make	:	Sandeep Agro Works SARJA™
d)	Serial No.	:	BE-1050 & 2024
e)	Model	:	SA-7-SD
f)	Year of manufacture	:	2024
g)	Different seeds which the drill is designed to sow	:	Wheat, Soybean, Gram, sorghum etc.
h)	Source of power	:	Tractor
i)	Recommended traveling speed of the drill	:	3-5 km/h
j)	Recommended power of tractor (if tractor operated)	:	(35 hp and above) 26.09 kw
k)	Location of fertilizer outlet in relation to seed outlet.	:	Rear side of seed outlet

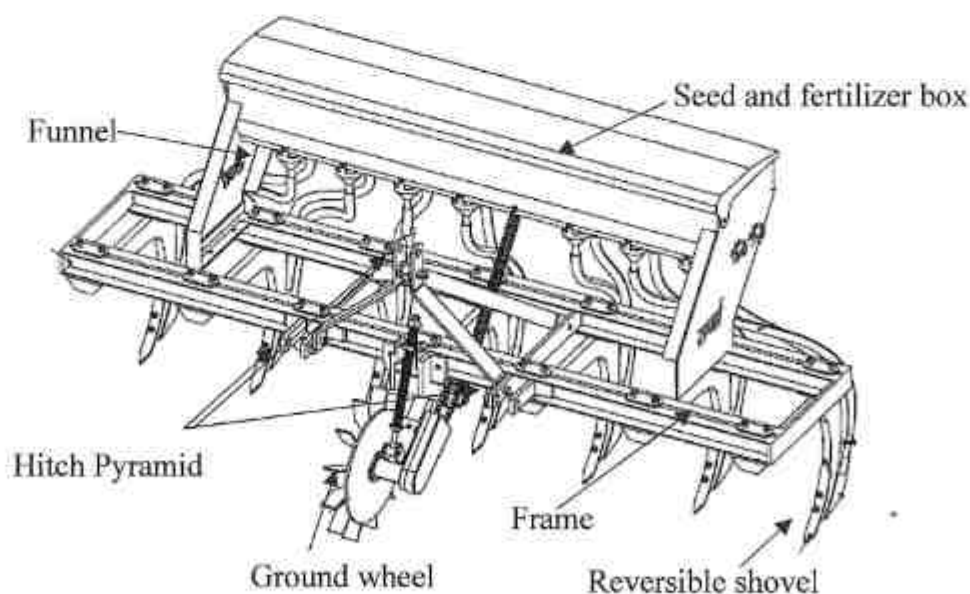


Fig 1 Isometric view of seven tine seed cum fertilizer drill

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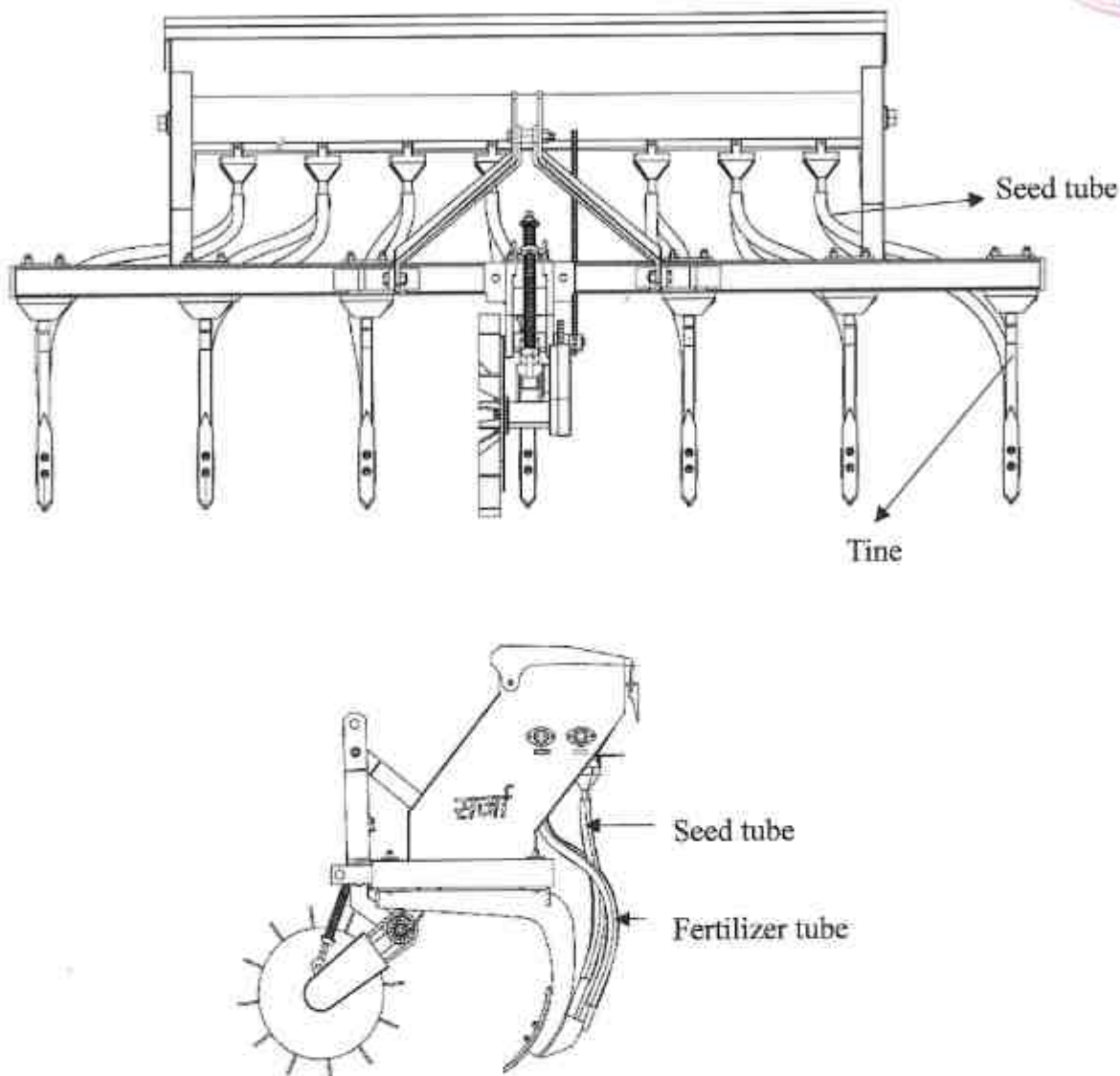


Fig 2 Views of seven tine seed cum fertilizer drill

4.2 FURROW OPENER

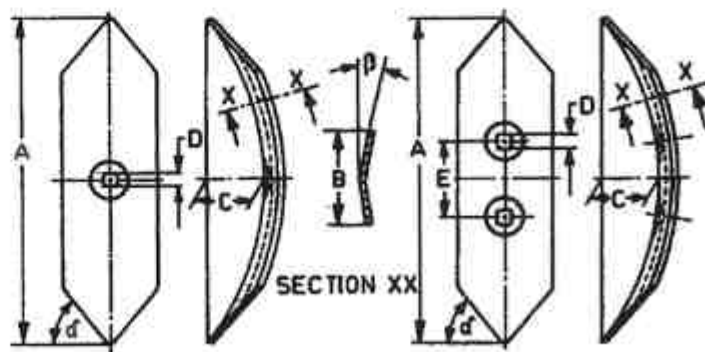


Fig 3 Furrow opener

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Report Released: 11/02/2023

Test Report Title: Op 101 27/02/2022

Specification of shovel as per IS: 6813: 2000				
Sr. No.	Notations	As per IS, mm	As observed, mm	Conformity to IS
1	A	150± 2 or 170± 2 or 180 ± 2	288	Does not conform
2	B	35± 2 or 45± 2	36.45	Conforms
3	C	25± 1 or 30 ±1	30.95	Conforms
4	D	11.5 ± 0.5	12.42	Conforms
5	E	45 ± 0.5	45.5	Conforms
6	α	45 ± 5, degree	50.0	Conforms
7	β	10-20	15	Conforms
a)	Type and tilt angle with respect to vertical		:	Reversible shovel and 5° (Fixed)
b)	No. of openers		:	Seven
c)	Arrangement of openers		:	Seven furrow openers fitted on the rear beam of the toolbar.
d)	Range if selection of openers		:	1 to 7
e)	Method of changing row space and range		:	For changing, row spacing slide the tines after loosening the nuts and bolts
f)	Nominal width, cm		:	7 x 34.9 (Adjustable)
g)	Lifting and lowering of openers		:	Not provided
h)	Depth control		:	Depth controls are achieved through the hydraulic system of tractor
i)	Fertilizer placement with respect to seeds.		:	Top of seed
4.3 METERING MECHANISM:				
a)	Seed metering device:			
1)	Type	:	Plate type	
2)	Size of feed plate and number of plate, mm	:	125 ϕ , 1.21 mm thick, and 7 Nos. seed plate	



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12.15	It is the sole responsibility of manufacturer to supply the quality machine same as the test prototype provided for testing including suggested modifications, comments and recommendation. This is the test report and not any kind of recommendations for tractor operated seven tine seed cum fertilizer drill (Model: SA-7-SD)
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TESTING AUTHORITY

Er. R. R. Gajbhiye Test Engineer	
Dr. A. K. Kamble Asstt. Agril. Engineer	
Dr. A. V. Gajakos PI & Head, Deptt. of FPM	

Test Report compiled by

Er. Lilesh Patel, Sr. Tech. Asstt., FMT&TC Dept. of FPM, CAET, Dr. PDKV, Akola

13. APPLICANT'S COMMENTS

We will follow the summary of observations comments and recommendations provided in clause number 12.1 to 12.15 in a draft copy of test report of the tractor-drawn seed cum fertilizer drill (Model: SA-7-SD) by FMT&TC, Dr. PDKV, Akola during mass production of this model.