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Short Communication

Constraints Analysis in Production of Castor Bean in Tribal Area of Mahabubnagar District in Telangana

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Castor bean is one of the prominent industrial oilseed crops grown in India. It is confined to mostly Gujarat, Rajasthan and Andhra Pradesh (undivided AP). Castor is also grown on a limited scale in the states of Karnataka, Tamil Nadu, Maharashtra, Orissa and Madhya Pradesh. The crop is known as poor man's crop and mostly confined to Mahabubnagar, Rangareddy and Nalgonda of Telangana while Prakasam, Anantapur and Kurnool districts of Andhra Pradesh. In Telangana and AP, castor bean is cultivated under rainfed condition during *kharif* season and the productivity varies from 440-675 kg/ha, which is far below than the national average of 1512 kg/ha (DOR, 2012). The data on area, production and productivity of castor in AP (undivided) and Mahabubnagar are given in Tables 1 and 2. Data in Table 2 indicate that the productivity levels of Mahabubnagar district over years varies from 420 to 550 kg/ha, which is less than the state average.

Table 1 : Area, production and productivity of castor in Andhra Pradesh (undivided state)

Year	Area (000' ha)	Production (000' q)	Productivity (kg/ha)
2007-08	199	129	654
2008-09	159	081	511
2009-10	147	085	442
2010-11	186	120	645
2011-12	230	156	677

Low productivity levels have led to decline in area which is attributed mainly to bio-physical and socio-economic constraints. A survey was conducted by Directorate of Oilseeds Research (DOR) during 2011-12 and data were collected from 60 tribal farmers belonging to Macharam, Jangamreddypalle, Chitlamkunta, Maddimadugu, Petranchenu and Venkateshwarlabhavi in Mahabubnagar district of Telangana state to assess the reasons for lower yields of castor bean. The survey included focus group discussions involving farmers and scientists using structured schedule.

Table 2 : Castor grown during *kharif* in Mahabubnagar

Year	Area (000' ha)	Production (000' t)	Productivity (kg/ha)
2008-09	90.4	43.7	480
2009-10	84.1	35.0	420
2010-11	83.9	46.5	550
2011-12	77.3	32.3	420

Factors affecting yield of castor bean

The survey results showed that pests and diseases attack and non-adoption of plant protection measures on the part of tribal farmers as one the major factors for lower productivity of castor bean which accounted for the loss of yield to the tune of 300 kg/ha which is in conformity with earlier results reported by Ramanjaneyulu *et al*. (2014) followed by uneven distribution of rainfall (250 kg/ha). Other factors like non-availability of agricultural inputs like implements, labour, etc. resulted in loss of 150 kg/ha, followed by nutrient-poor soils (100 kg/ha) and lack of access to institutional credit (50 kg/ha) (Table 3). Padmaiah and Venkattakumar (2009) observed lack of access to institutional credit as one of the major factors leading to yield gap in production of castor bean. The study has demonstrated a need of extensive efforts for development of varieties/hybrids tolerant to dominant pest and diseases in augmenting the yield of castor bean and addressing of other constrains for improving the area under cultivation.

Table 3 : Reasons for low productivity of castor bean (sample size n=60)

Reasons	Number of farmers reported	Loss of yield (kg/ha)
Pests and diseases attack and non-adoption of control measures	18 (30)	300
Scanty and uneven distribution of rainfall and excessive runoff leading to poor infiltration	15 (25)	250
Non-availability of agricultural inputs like implements/ machinery, labour, etc.	9 (15)	150
Nutrient-poor soils	6 (10)	100
Use of poor quality seed	5 (8)	83
Lack of awareness on castor bean production technology	4 (7)	67
Poor institutional credit support	3 (5)	50

Note: Figures in parentheses are percentage of farmers reported reasons for lower productivity of castor bean to the total sample.

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