

Short Communications

<https://doi.org/10.20546/ijcmas.2019.811.138>

Identification of Suitable Contingent Crops for Delayed Onset of Monsoon in Scarce Rainfall Zone of Andhra Pradesh, India

C. Prathyusha* and D. Sampath Kumar

Agricultural Research Station, Acharya N.G. Ranga Agricultural University, Kadiri-515591,
Ananthapur Dist, Andhra Pradesh, India

*Corresponding author

ABSTRACT

Keywords

Castor, Foxtail millet, Pigeonpea, Greengram, Horsegram, Rainfall pattern, Amount, intensity

Article Info

Accepted:

10 October 2019

Available Online:

10 November 2019

A Field experiment was conducted during *kharif*, 2015 with twelve different crops (T1- Groundnut, T2- Castor, T3- Foxtail millet, T4- Pigeonpea, T5-Greengram, T6- Horsegram, T7- Clusterbean, T8- Fieldbean, T9-Cowpea, T10-Bajra, T11-Jowar, T12-Littlemillet) under delayed sowing conditions at Agricultural research Station, Kadiri. All the twelve crops were sown under two different dates of sowing, i.e., during September 1st FN and September 2nd FN. Among the twelve crops evaluated for September sowings, groundnut resulted in negative returns. Highest groundnut pod equivalent yield was recorded with clusterbean for vegetable purpose in both the dates of sowing in September followed by foxtailmillet, littlemillet, horsegram and pearl millet. While, considering the cost of cultivation, highest net returns were recorded with clusterbean (Rs. 26,537 and Rs.29,691/ha) followed by foxtailmillet (Rs. 14,887 and Rs.9,899/ha) and littlemillet (Rs. 12,893 and Rs.7,712/ha).

Introduction

Rainfall is the most important but variable climatic parameter in suitable crop planning especially in the regions of rainfed agriculture. The rainfed agro-ecology is characterized as vulnerable for agricultural operations which revolve around moisture availability due to rainfall pattern, amount, intensity and its uses for crop production (Dekha and Nathm, 2000). In drylands, occurrence of drought is quite

frequent at any stage of crop growth and length of growing period ranges from 75 to 120 days only. Vagaries in monsoon rains and breaks of varying duration are most common in Ananthapur district.

In Anantapur district, groundnut is being grown as a monocrop in 7.5 lakh hectares under rainfed conditions. The delayed onset of monsoon frequented with prolonged mid season droughts often results in crop failures.

Moreover, every year delayed onset of monsoon also leads to 20000 to 65000 hectares of cultivated area left unsown in the district. The problem necessitated the identification of suitable contingent crops.

Materials and Methods

A field experiment was conducted during *kharif*, 2015 with twelve different crops(T1- Groundnut, T2- Castor, T3- Foxtail millet, T4- Pigeonpea, T5-Greengram, T6- Horsegram, T7- Clusterbean, T8- Fieldbean, T9-Cowpea, T10-Bajra, T11-Jowar, T12-Littlemillet) under delayed sowing conditions at Agricultural research Station, Kadiri. All the twelve crops were sown under two different dates of sowing, *i.e.*, during September 1st FN and September 2nd FN.

Results and Discussion

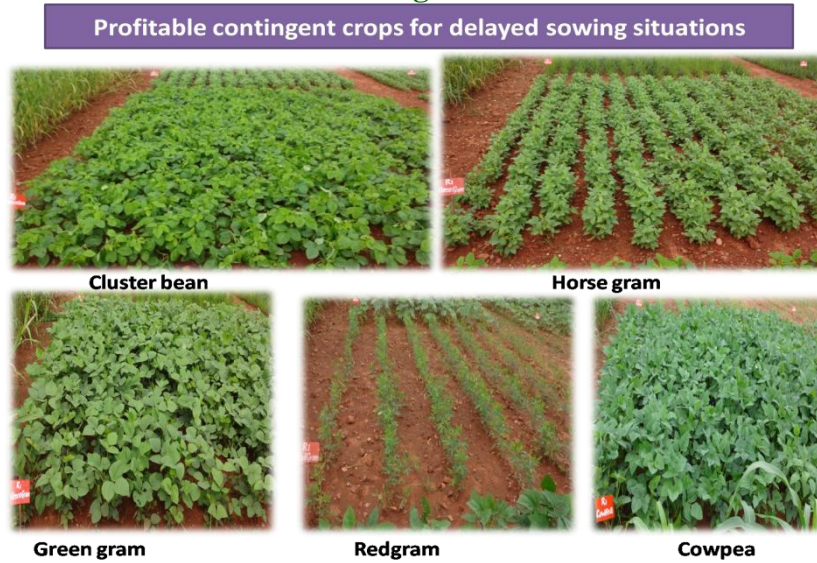
Among the twelve crops evaluated for September sowings, groundnut resulted in negative returns. Highest groundnut pod equivalent yield was recorded with clusterbean for vegetable purpose (1043 and 1122 kg/ha in Sep 1st FN and Sep2nd FN respectively) in both the dates of sowing followed by foxtailmillet, littlemillet, horsegram and pearl millet.

While, considering the cost of cultivation, highest net returns were recorded with clusterbean (Rs. 26,537 and Rs.29,691/hain Sep 1st FN and Sep2nd FN respectively) followed by foxtailmillet (Rs. 14,887and Rs.9,899/ha) and littlemillet (Rs. 12,893 and Rs.7,712/ha) (Table 1 and Fig. 1).

Table.1 Yield and economics of different contingent crops under delayed sowing conditions

Treatment	Groundnut pod equivalents (kg ha ⁻¹)		Cost of cultivation (Rs ha ⁻¹)	Gross returns (Rs ha ⁻¹)		Net returns (Rs ha ⁻¹)		Benefit cost ratio	
	D1	D2		D1	D2	D1	D2	D1	D2
Groundnut	604	430	25000	25368	18060	368	-6940	1.01	0.72
Castor	455	335	19400	18200	13400	-1200	-6000	0.94	0.69
Foxtail millet	753	629	15250	30137	25149	14887	9899	1.98	1.65
Pigeonpea	188	148	14500	18000	13620	3500	-800	1.24	0.94
Greengram	273	107	13250	17980	7018	4730	-6232	1.35	0.52
Horsegram	344	359	8650	13766	14366	5116	5716	1.59	1.66
Clusterbean	1043	1122	15200	41737	44891	26537	29691	2.74	2.95
Fieldbean	308	241	13250	12314	9657	-936	-3593	0.93	0.73
Cowpea	388	186	13250	15514	7457	2264	-5793	1.17	0.56
Bajra	387	320	12500	15489	12790	2989	290	1.24	1.02
Jowar	270	228	12500	10801	9114	-1699	-3386	0.86	0.73
Little millet	629	499	12250	25143	19962	12893	7712	2.05	1.63

Fig.1



References

Deka, R.L. and Nath, K.K. (2000). Rainfall analysis for rainfed crop planning in

the upper Brahmaputra valley zone of Assam. *Journal of Agrometeorology.*, 2: 47-53.

How to cite this article:

Prathyusha, C. and Sampath Kumar, D. 2019. Identification of Suitable Contingent Crops for Delayed Onset of Monsoon in Scarce Rainfall Zone of Andhra Pradesh. *Int.J.Curr.Microbiol.App.Sci.* 8(11): 1176-1178. doi: <https://doi.org/10.20546/ijcmas.2019.811.138>