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# Optimum Sowing Window of Small Tuber Potato in Assam

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An experiment was conducted under All India Co-ordinated Research Project on Dry land Agriculture (AICRPDA), Biswanath Chariali Centre of Assam Agricultural University to optimize the sowing window of both red eyed and white eyed small tuber of potato in Assam. The experiment was conducted at AICRPDA research field of Biswanath College of Agriculture in three years from 2013, 2014 and 2015 consisting four dates of sowing (1<sup>st</sup> October, 16<sup>th</sup> October, 1<sup>st</sup> November and 15<sup>th</sup> November) and two variety of small tuber (Red eyed and white eyed) and Kufri Pokhraj (recommended improved variety) as control. From the study it has been observed that yield of the small tuber potato reduces with advancement of the dates of sowing and benefit cost ratio was comparatively more in 15<sup>th</sup> October sowing than 30<sup>th</sup> October in both red eyed and white eyed tuber. Similar trend of results was also observed in On-Farm Trials (OFT) conducted in three Krishi Vigyan Kendra (KVK) of Assam Agricultural University, Jorhat, Assam and optimum sowing window of small tuber potato was found best within the month of October, however but 15<sup>th</sup> October sowing was superior in yield and B:C ratio over 30<sup>th</sup> October sowing.

## INTRODUCTION

Potato is called as poor man's friend. It is the most important food crop of the world. For vegetables purposes it is one of the most popular crop of India. It contains 20.6% carbohydrates, 2.1% protein, and 0.3% fat besides starch, vitamin and minerals. Potato is used for several industrial purposes such as production of starch, vitamins, minerals and alcohol. Potato is also utilized for post-harvest processing of preparation of various products such as potato chips, sliced, potato soup, potato salad, potato pancakes etc. Small tuber potato is mainly grown by the farmers of

**Table 1. Results of OFT (On farm trial), KVK, Barpeta AAU, Assam**

Parameters	Red eyed		White eyed	
	15 <sup>th</sup> October	30 <sup>th</sup> October	15 <sup>th</sup> October	30 <sup>th</sup> October
Plant height (cm)	32.66	35.33	37.3	40.2
Tuber /plant	17	23	24	28
Yield (q/ha)	105.3	108.5	140.2	142.0
B:C ratio	2.91	3.01	3.05	3.10

**Table 2. Results of OFT (On farm trial), KVK, Jorhat, AAU, Assam**

Parameters	Red eyed		White eyed	
	15 <sup>th</sup> October	15 <sup>th</sup> October	15 <sup>th</sup> October	30 <sup>th</sup> October
Duration (days)	132	132	132	128
Yield (q/ha)	49.01	49.01	49.01	44.10
Gross cost(Rs.)	42800	42800	42800	42800
Gross return (Rs.)	122500	122500	122500	110250
Net return (Rs.)	79700	79700	79700	57450

**Table 3. Results of OFT (On farm trial), KVK, Sonitpur, AAU, Assam**

Parameters	Red eyed		White eyed	
	15 <sup>th</sup> October	30 <sup>th</sup> October	15 <sup>th</sup> October	30 <sup>th</sup> October
Plant height (cm) at 50DAS	38.51	34.22	39.10	34.80
Shoots per plant at 50DAS	5.12	4.30	4.27	5.17
Yield (q/ha)	58.84	46.67	51.20	47.45
B:C ratio	1.95	1.74	1.89	1.77

**Table 4. Results of three KVKs**

KVKs	15 <sup>th</sup> October				30 <sup>th</sup> October			
	White eyed		Red eyed		White eyed		Red eyed	
	Yield (qha <sup>-1</sup> )	B:C ratio						
Barpeta	140.2	3.05	105.3	2.91	142.0	3.10	108.5	3.01
Jorhat	49.0	2.86	53.2	3.11	44.1	2.56	48.7	2.84
Sonitpur	51.2	1.89	58.8	1.95	47.4	1.77	46.6	1.74
Average	80.13	2.60	72.43	2.65	77.83	2.47	67.93	2.53



Assam for preparation of a delicious and popular dish of 'potato fry' of Assamese people. The demand of the small tuber potato in the market is also high and on an

average the price goes up to Rs.40.00 per kg. The red eyed tuber potato has more demand as compared to white eyed and price sometimes goes even up to



**Some photographs of OFT on small potato tuber conducted at three KVK's of AAU, Assam**

Rs.50.00 per kg as against Rs.10.00 per kg of normal potato. The production technology of potato cultivation (normally grown) in Assam is available in State package of practices published jointly by Assam Agricultural University, Jorhat and Department of Agriculture, Assam but limited information is found in case of small tuber potato. Therefore the experiment was undertaken under All India Coordinated Research Project for Dry land Agriculture, Biswanath Chariali Centre of Assam Agricultural University to optimize the sowing window of both red eyed and white eyed small tuber in Assam keeping in view of the demand of the small tuber.

### CONCLUSION

The study revealed that yield of small tuber potato reduces with advancement of the dates of sowing and Benefit Cost ratio is comparatively more in 15<sup>th</sup> October sowing than 30<sup>th</sup> October in both red eyed and white eyed tuber. Both the red eyed and white eyed small tuber potato can be successfully grown within the month of October, however farmers can get higher monetary return if crop is planted on 15<sup>th</sup> October as it results in better yield and higher B:C ratio over 30<sup>th</sup> October sowing.