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Shobha Rani

*Bihar Agricultural University, India*

R. K. Sohane

*Bhagalpur Agricultural University, India*

Dinesh Mahto

*Bhagalpur Agricultural University, India*

Basant Kumar Sharma

*Bhagalpur Agricultural University, India*

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## Fodder Seed Bank – An initiative for green fodder production during lean period by KVK, Jehanabad under NICRA Project

Shobha Rani<sup>1\*</sup>, R. K.Sohane<sup>2</sup>, Dinesh Mahto<sup>2</sup>, Basant Kumar Sharma<sup>2</sup>

<sup>1\*</sup>Bihar Agricultural University, Sabour, Bihar, Bhagalpur, India

<sup>2</sup>Bhagalpur Agricultural University, Sabour, Bhagalpur, Bihar, India

\*Corresponding author e-mail : shobhakuar@gmail.com

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### Introduction

Fodder production is an often-overlooked aspect of livestock rearing. The scarcity of fodder during lean period poses great problem before the livestock owners. The case with availability of green fodder is even more serious. Green fodder is essential for feeding of the dairy animals as poor nutrition is the biggest constraint in animal production, especially in dairy cattle production. This problem arises mainly due to the fact that ruminants are basically fed with fibrous forages and low quality roughages such as straws, especially during the lean seasons. The fodder seed availability is a major constraint apart from the interest of the farmer and cropping system followed. Though a number of fodder varieties have been developed but seeds are not available because it is trapped in vicious cycle of lack of demand due to lack of extension, which inhibits production of seed. Thus this cycle need to be broken through proper extension.

Therefore, a model of community fodder production has been intervened by Krishi Vigyan Kendra, Jehanabad in its adopted village under National Innovation on Climate Resilient Agriculture (NICRA) project. Accordingly, the village namely Sakrorha at Modanganj block of Jehanabad district was selected. The farming situation in the adopted village does not leave any scope for providing green fodder to cattle during scarcity periods. So, this intervention was taken up as an approach to produce fodder on community basis.

### Materials and Methods

The work was done following group approach through the members of the existing Village Climate Risk Management Committee (VCRMC) club formed under NICRA in the village. Farmers were trained and motivated to take up fodder production and produce fodder seed under the technical guidance of the KVK. The selected crops were barseem (*Var. Wardan* and *Bundel Berseem 2*) and oats (*Var. JHO 822*). Farmers were provided seeds of selected varieties for seed bank establishment. Some other farmers were provided seeds for general cultivation of fodder crops to be used for livestock feeding and not for seed purpose. For seed production breeder seeds were provided for 1.5 ha land that resulted into production of 22q foundation seed of oats available in seed bank. Similarly 8.0q of Berseem were produced as seed in first year. Accordingly, the fodder seed production was started on a community basis. Berseem and oats are very important green fodder for dairy animals. Berseem and oats reduce the cost of feeding upto 20%. Barseem contains 17-20% Crude Protein and it is rich in vitamins and minerals. KVK acted as a liaison agency between Magadh Dairy Cooperative (MDC), Gaya and the farmers of Sakrorha village as a result this MDC provided further seeds of oats (*var. Kent*) for seed production in another 2.0 ha area.

### Results and Discussion

It was observed that improved variety of Berseem ‘Wardan’ and ‘Bundel Berseem 2’ gave 20.9 and 17.74 percent higher fodder yield respectively than local variety. Similarly improved variety of Oat namely JHO- 822 gave 25 percent more yield than local. Increase in availability of quality fodder throughout the year increased milk production by 39 percent and on an average, each farmer’s income by Rs. 60/animal/day as indicated by the milk cooperative of the village.

**Table 1:** Performance of Fodder Crops

Crop	Variety	No. of farmers	Area (ha)	Yield		% in crease	Economics of Variety (Rs./ha)				Economics of local(Rs./ha)			
				Variety (Q/ha)	Local (Q/ha)		Gross Cost	Gross Return	Net Return	BCR	Gross Cost	Gross Return	Net Return	BCR
Oat	JHO-822	20	1.4	500	400	25	16000	27500	31500	2.9	14700	38000	23300	2.5
Berseem	Wardan	20	2.30	750	620	20.9	17200	78750	61500	4.5	16300	65100	48800	3.9
	Bundel Berseem 2	20	2	730	620	17.74	17200	76650	59450	4.4	16300	65100	48800	3.99

**Table 2:** Year wise details of seed production

Crop/ Variety	2012-13		2013-14		2014-15		Total	
	No. of Farmers	Area (In ha)	No. of Farmers	Area (In ha)	No. of Farmers	Area (In ha)	No. of Farmers	Area (In ha)
<b>Oat (JHO-822)</b>	20	1.4	44	3	45	5	109	9.4
<b>Berseem Wardan</b>	30	3.0	35	3.5	30	3.0	130	13.3
Bundel Berseem 2	10	1.3	15	1.5	10	1.0		

The major constraint as expressed by the farmers was the problem of storage of fodder seeds. To overcome the problem of seed storage, the seeds were sold to the nearest Magadh Dairy Cooperative, Gaya at the rate of Rs 2200/quintal on the basis of collective marketing. Thus, the income level of the farmers also got increased.

### **Conclusion**

The concept of Fodder seed bank and community approach in livestock rearing areas can be a very important tool for promoting fodder production and round the year availability of fodder. There is greater need to run extensive awareness campaign on mass basis among the livestock owners regarding the fodder management for better animal health and increased milk productivity. Extension to promote balance feed, and proper storage of fodder to avoid losses need also to be emphasized. The success of seed bank in the present context also indicates that a favorable policy environment in terms of access to government support, micro-credit and assured market will have to be provided and simultaneously there is also need to address the socio-economic and technical constraints.