

## A Note on the Sowing of Kolinji in a Standing Crop of Paddy on the West Coast.

by

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**Introduction:** The value of green manuring paddylands has been well recognized. The practice of actually growing a green manure crop in the fields, has also become widespread. The success of raising a green manure crop in rice lands depends upon the type of land, whether it is single or double crop land, the nature of the soil etc., but the availability of moisture is a limiting factor in almost all cases. In Malabar, *Kolinji* is one of the most popular of all the green manures and is generally sown in double-crop lands, after the harvest of second crop paddy. In the past few years, due to the successive failures of the North-East monsoon, the sowing of this green manure after second crop harvest was very much limited for want of moisture in the fields.

The seeds of *kolinji* are very poor germinators when sown as such. Several methods have been tried in the past to overcome this difficulty and among these, scarification or rubbing down the seed-coat was found to be a very easy and effective method. In order to effect scarification on a bulk scale, the ryots pound the seeds of *kolinji* mixed with sand before sowing. From a practical point of view, it will be advantageous if the seed sown directly without any pretreatment could give as good germination and yield as pre-treated seeds.

Data relating to trial of sowing of *kolinji* seeds in a standing crop of paddy, with dressed and undressed seeds conducted at the Agricultural Research Station, Pattambi are presented in this paper.

**Previous Work:** Sowing of green manure seeds in a standing main crop before it is harvested is reported to be in vogue in many places. In the Godavari delta a crop of sunhemp is usually sown under the rice before it is harvested. (Ramiah, 1937). In America, there exists the practice of seeding clovers on winter cereals or with spring grain and the clover is said to occupy the ground after the grain has been harvested (Pieters 1927). For improving germination in *kolinji* seed Chandrasekara Iyer (1944) recommended sand - papering.

**Experimental:** Broadcast sowing of *kolinji* seeds, both dressed and undressed (dressing being done by pounding with an equal quantity of sand for 15 minutes) was done in a standing crop of GEB. 24 at fortnightly intervals commencing from the date of its planting upto the date of harvest. Control included ploughing and sowing of both dressed and undressed seeds after the harvest of paddy. As long as there was water available the flow was regulated to allow about two inches of water to stand in the field. The paddy crop was harvested and the green manure crop was left to grow till the next first-crop planting, when it was pulled out after taking counts per unit area and estimating the acre yields. In the second year of trial the control could not be sown as ploughing could not be taken up after harvest for want of sufficient moisture. The yield data are presented in the table. The cost of sowing one acre with dressed *kolinji* seeds after the harvest of paddy was also worked out and found to be Rs. 7—8—0 per acre.

From the results it will be seen that maximum yields in both the years of trial were recorded if the seeds were sown when the field was just slushy. Seeds sown in plots where water was stagnating for a long period gave very poor germination and poor yields. This is but to be expected, since the majority of seeds are liable to rot when steeped in water for a long time. Counts of number of plants per unit area taken in order to assess the comparative germination of dressed and undressed seeds showed little or no difference when sown in the standing crop, whereas in the control plot there was a marked difference in the germination between the two. It is likely that under continuously moist conditions existing in the slushy field, even hard seeds may germinate. The fact that hard seeds of *Alfalfa* germinate when kept in moist condition for several months supports this. Sowing the seeds in the standing crop also brings about an economic gain, by way of saving the preparatory cultivation for raising the green manure.

**Summary:** 1. *Kolinji* seeds sown in the standing crop of paddy when the field is just slushy, is found to record the maximum yield of green matter.

2. When sown in the standing crop, sowing of undressed seeds is found to be as good as sowing dressed seeds both in yield and germination.

3. By sowing *kolinji* in the standing crop of paddy the ryot stands to save about Rs. 7-8-0 per acre in the preparatory cultivation alone.

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TABLE

Years of trial	Plot	Date of sowing of Kolinji	Acre yield in lbs. of <i>Kolinji</i>		Nature of moisture in the field
			dressed	not dressed	
1951-52 Paddy GEB. 24  Sown: 21-9-'51 Planted: 26 & 27-10-'51  Flowered: 4-12-'51 Harvested: 17-1-'52	I	27-10-'51	6 lb.	95 lb.	Water stagnating over 45 days.
	II	15-11-'51	219 "	63 "	do
	III	30-11-'51	92 "	42 "	Water stagnating over 30 days.
	IV	14-12-'51	152 "	200 "	do
	V	29-12-'51	139 "	475 "	Water stagnating over 15 days.
	VI	13-1-'52	4500 "	4450 "	Field slushy without stagnating water.
	Control	19-1-'54	3200 "	1700 "	Moisture just sufficient for germination.
1952-53 Paddy GEB. 24  Sown: 27-8-'52 Planted: 8-10-'52 Flowered: 27-11-'52 Harvested: 4-1-'53	I	10-10-'52	8470 "	8200 "	Field slushy.
	II	25-10-'52	7260 "	7400 "	Moisture sufficient for germination.
	III	9-11-'52	3932 "	3880 "	Field just moist.
	IV	24-11-'52	756 "	200 "	Field started cracking.
	V	9-12-'52	756 "	620 "	Cracking continues.
	VI	24-12-'52	Not germinated		No moisture.
	Control				Control could not be sown for want of moisture.