Pasture study in this country is still in its infancy. Work is being continued here with a view to throw light on the pastures from the point of view of animal husbandry.

Summary:—The pastures at the Livestock Research Station, Hosur, have been classified as permanent, tank bed, tank bund, channel banks, temporary and irrigated pastures and studied. In addition to botanical analysis the quantity and quality of pastures are explained. The competition between species of grasses is explained and those species suited for temporary and permanent leys are mentioned. From observations made at Hosur grass mixtures are suggested.

Acknowledgements. My grateful thanks are due to Mr. C. M. Ranga Reddy, the Ganja Botanist, Hosur, Mr. E. K. Krishnan, Extra Assistant Conservator of Forests, Hosur, Professor J. A. S. Watson and Dr. H. Bancroft of the School of Rural Economy, Oxford and Dr. J. Burt Davy of the Imperial Intitute of Forestry, Oxford. The grasses were collected and pressed by Mr. M. P. Kunhikutty. The analysis of grasses and weeds in select paddocks was done by Mr. K. H. Subramaniam.

References.

- Littlewood R. W. and Narahari Rao, H. (1930)—Notes on the cultivation and management of Grass land at the Livestock Research Station, Hosur—Madras Agricultural Journal XVIII pp. 63—71.
 - 2. Symonds, T. J .- Indian Grasses

https://doi.org/10.29321/MAJ.10.A04961

THE CULTIVATION OF CUMIN IN THE PERIAKULAM TALUK.

By S. V. RAMACHANDRAN, B. Sc. Ag., Agricultural Demonstrator, Periakulam.

Cumin is a crop cultivated in very few places in this Presidency and Periyakulam in the Madura District is one. Approximately it occupies an area of 300 acres in this Taluk. It is a very delicate crop, requiring much attention and care. It requires a mild climate and is grown during the South West Monsoon season in garden lands under wells. The duration of the crop is two months and it is cultivated between June and August.

Good, well drained, rich red loam is best suited for a successful growth of the crop, and it is not systematically rotated with any crop. But it is generally followed either by chillies or late Ragi and cholam.

The soil is ploughed as many times as possible and a good fine tilth is obtained. Usually seven ploughings are given. After the third ploughing, good, well-rotten cattle manure, at 30 to 35 cart loads per

Latin Cumin cynumun; Tamil Jecragam; Telugu Jilakara; Malayalam Jecrakam.

acre, is applied and covered. Sheep penning is also done usually. One or two more ploughings are given. Small beds about 4 feet broad are then formed so that the sower's hands reach the middle of the bed with ease when he sits in the irrigation channel. The length is determined by the convenience with which they may be irrigated. Small stones, pebbles and bricks are carefully picked out and removed from each bed.

Sowing is done in the beginning of Ani (June 15th) and it is a very important operation, requiring much care. The sower sits in the irrigation channel and sprinkles the seed lightly and evenly bed by bed and then covers them with his fingers. The seed rate is 10 Madras measures per 60 cents.

Next comes irrigation, the most laborious of all operations. The water should be let in slowly and lightly, as otherwise the flow of water will spoil the crop especially in the earlier stages if allowed to run fast. The water baled out with a single mhote is divided into two streams and two men are engaged to guide it. The irrigation channels should be half a foot deeper than the bed, so that the water will spread slowly and evenly. For the first 7 days after sowing, the beds are irrigated every day and after that every alternate day till the harvest of the crop. During the growth, three weedings are given

Pests and Diseases.:—Among the pests and diseases, a leaf caterpillar (Laphygma exigua, H.) is known to feed on leaves and tender buds. But the incidence is only occasional. No other serious pest or disease is known

Harvest:—The crop gets ready for harvest by the middle of August (beginning of Avani). The plants are pulled out, dried, and thrashed with light sticks. Cleaning is another tedious process. The produce is disposed of in the Taluk itself at the weekly markets at Theni where there are dealers and merchants who are ever ready to purchase it.

The cost of cultivation and the value of the produce is given below and the figures are worked out for a 60 cents unit.

Economics of Cultivation of Cumin. Area, 60 cents.

Details	Bullock pairs at Re. 1		Women Cost
Preparatory Cultivation.	2 5 7		Rs. a. p.
7 ploughings	7 -		7 0 0
Forming beds	\$	4	1 0 0
Picking stones		- 11	6 0 12 0
Manuring			
30 cart loads of cattle manure			
@ 0.8-0 per cart load			15 0 0
Sheep penning-(500 Sheep)			2 0 0
Spreading cattle manure			10 1 4 0

Seeds and Sowing					
10 Madras measures of seed @ Re. 1					
per measure			10	O	0
Sowing and covering	4		1	0.	0
Irrigation.					414
25 irrigations @ Rs. 2 per irrigation					
(1 pair and 2 men)			50	0	0
After-cultivation					*
3 weedings		60	. 7	8	. 0
Harvesting	,			-	ì
Pulling, threshing and cleaning	. 4.	20	. 3.	8	0.
Miscellaneous			1	0	0
			100	0	0
Gross income 6 kalams of 48 m. m. each @ Rs. 30			180	0	0
				_	

Net profit Rs. 80-0-0 per 60 cents (or Rs. 133 per acre).

THE "FOOT-ROT" OF PADDY & ITS CONTROL

By K. M. THOMAS B.A.,
Assistant to Government Mycologist, Coimbatore.

In a previous paper the writer (1931) drew attention to the occurrence of a paddy disease new to the Madras Presidency and described its field symptoms as they were observed on Garikasannavari a popular variety grown in the Godavari delta. This disease has been named 'Foot-rot' which signifies the effect of the fungus on the host plant. The disease has since been observed on paddy in other parts of the Presidency also and has been recorded either sporadically or in artificial culture on over fifty varieties of paddy representing all the important paddy tracts of the province.

The symptoms of the disease recorded on Garikasannavari are essentially the same for all varieties though minor variations are met with in some. The most outstanding and at the same time the most easily detectable symptom of the disease is the appearance of pale, slender and abnormally elongated plants which ordinarily die out within a week of the first appearance of the diseased condition. Though the disease may become apparent in individual plants at all stages in the life of the crop, from as early as the sixth day after sowing to as late as the mature stage immediately prior to harvest, and is followed by wilting in whatever stage it occurs, the largest number of deaths occurs in the nursery stage ranging roughly from a fortnight to six weeks after sowing. This does not, however, account for a varying percentage of seeds which are killed during the period of germination before the plumule has elongated sufficiently to come out of the soil. Besides those described in the previous paper, another symptom which conspicuous on well established plants is the fasciculation of the