

	<i>Per acre.</i>
	Rs. A. P.
(2) <i>Manure and Manuring.</i>	
Sheep penning at 1000 sheep.	15-0-0
20-30 cartloads of village sweepings and earth round the fences etc.	5-0-0
Covering manure by ploughing.	1-8-0
(3) <i>Seeds and sowing.</i>	
Broadcasting 15 lb. of cotton seed and 10 lb. of cumbu and covering and ploughing twice.	3-12-0
Cost of 15 lb. of cotton seed and 10 lb. of cumbu.	0-12-0
Cost of horsegram (15 lb.) and sowing etc., during 2nd & 3rd years.	1-8-0
(4) <i>Intercultivation.</i>	
One ploughing with country plough both for cumbu and cotton 1-1½ ft. apart.	1-4-0
Intercultivation of cotton alone 2 to 3 times a year i. e. after every rain.	3-12-0
II year.	3-12-0
III year.	3-12-0
(5) <i>Harvesting.</i>	
Harvesting cumbu and threshing.	3-0-0
Picking cotton (paid in kind) for all the three years.	5-0-0
Harvesting and threshing horse gram.	1-8-0
	Total... 52-8-0

Value of Produce.

(1) Value of 480 lb. of cumbu at Rs. 7-0-0 per 162 lb. (one salagai).	17-12-0
(2) Value of 300 lb. of horsegram for two years 2nd and 3rd years.	9-12-0
(3) Value of 500 lb. of kappas at Rs. 1-8-0 per 21 lb.	35-12-0
	Total... 63-4-0
	Net profit for 3 years. 10-12-0

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THE EFFECT OF SULPHUR ON BELLARY SHEEP

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It is well known that sulphur has a beneficial effect on the growth of wool. Considerable work has been done in Australia and elsewhere on the increased production of wool by the inclusion of sulphur in the ration. Bellary sheep on the Hosur Livestock Research Station, has a good conformation and is producing an average wool yield of 2.75 lb. The animals grow very slowly but they are capable of lambing twice a

ear. The wool is clipped twice a year, but the quantity and quality cannot be compared with those of the Merinos. The object of the experiment was to see if administration of sulphur to the Bellary sheep would have any effect on the growth of wool.

Twelve rams and 12 ewes were selected for the experiment. Six of each sex were earmarked as experimentals and the rest as controls. Care was taken to see that all the animals in each sex were, as far as possible, uniform with regard to age, weight and wool-yielding capacity. The experimentals received 1/16 oz. of flowers of sulphur per head each day. The experiment lasted over 7 months and all the animals were weighed once a week. During the experiment the animals were under close observation and the administration of sulphur was withheld for short periods at intervals in order to obviate ill-effects. Two of the experimental rams died of enteritis, but it cannot be said that the death was due to the inclusion of sulphur in their ration.

Taking the two weights into consideration the experimental rams on an average put on 2 lb. more weight than the control and experimental ewes an average of 0.3 oz. more than the controls. It is evident that the experimental ewes did not respond to the ration as well, as the rams. The table below shows the effect of sulphur with regard to growth:—

Sex Group.	Aggregate weight of six on	Average weight of one on	Aggregate weight of six on	Average weight of one on	Average increase per animal
	23-2-31 lb.	23-2-31 lb.	23-9-31 lb.	23-9-31 lb.	
Rams Sulphur	456	76.0	420*	105.0*	29.0 ^a
Rams Controls	452	75.3	641	102.2	27.0
Ewes Sulphur	298	49.7	383	63.8	14.1
Ewes Controls	297	49.5	374	62.3	13.8

* Weight of 4 animals as 2 died.

^a Increase of weight of only 4 animals.

The sheep were sheared at the commencement of the experiment and wool yield noted. Again, at the end of the experiment the weight of wool sheared was noted. From the table given below it will be seen that the wool yield of experimental rams do not show any improvement over the controls. Among the ewes however, the experimentals show on an average an increase of 1 1/6 oz. over the controls.

Sex Group.	Wool yield on 21-3-1931				Wool yield on 25-9-1931				Average increase of wool yield per animal.	
	For six animals.		Average per animal.		For six animals.		Average per animal.			
	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.	lb.	oz.
Rams Sulphur	9	9	1	9 1/2	9	7*	2	3 1/4*	0	9 3/4
Rams Controls	10	0	1	10 3/4	16	5	2	11 1/2	1	0 5/6
Ewes Sulphur	5	10	0	15	9	4	1	8 3/4	0	9 3/4
Ewes Controls	5	3	0	13 5/6	8	6	1	6 1/2	0	8 1/2

* Wool yield of 4 animals as two died.

Conclusion. The experiment is interesting. So far as it goes the small gain made either in the live-weight or wool yield, does not warrant the inclusion of sulphur in the ration for Bellary Sheep.

Acknowledgments. Assistant Farm Manager Mr. P. M. Appaswamy Pillai was in charge of the sheep and he was responsible for weighing and feeding.

THE INHERITANCE OF RED PERICARP COLOUR IN RICE (*ORYZA SATIVA*)

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The red colour of rice is confined entirely to the pericarp and this is lost partially or completely when rice is subjected to various degrees of polishing, after husking. Independent segregation of red and white rice has been observed in cross progenies by several workers. Parnell (1917), Hector (1913), McKerral (1913), Thompstone (1915) and Van der Stock (1912) have all recorded a simple 3 : 1 ratio of red to white rice. Lien Fang Chao (1928) has however recorded as 15 : 1 ratio of red to white in addition to 3 : 1.

During the season of 1931-32 a cross was made between T. 322 having long panicle and white rice and T. 206 with short panicle and red rice, with the object of studying the correlation between panicle length and yield, and incidentally the rice colour was studied in the progenies. The F_1 generation was pure for red rice. The F_2 generation showed segregation for rice colour and the following results were obtained.

	<i>Red rice.</i>	<i>White rice.</i>	
F_2 ratio	545	41	
Expected on a 15 : 1 ratio	549.3	36.7	$\frac{\text{Dev.}}{\text{S. E.}} = 0.7$

It is clear from the above that there are two factors involved for rice colour.

The F_2 population consisting of 516 plants was carried forward and grown as F_3 to confirm the F_2 behaviour. The examination of rice colour in the F_3 families was restricted to 40 plants taken at random in each family. From the counts so made, the families were grouped into different categories, and the different groups are given below.

Pure for red rice			209 families
Pure for white rice			30 "
Segregating families (15 : 1 and 3 : 1)			277 "
Of the two types of segregation 174 families gave			
	<i>Red rice.</i>	<i>White rice.</i>	
	5923	398	
Expected on a 15 : 1 ratio	5926	395	$\frac{\text{Dev.}}{\text{S. E.}} = 0.16.$
and 103 families gave	2969	956	
Expected on a 3 : 1 ratio	2974	981	$\frac{\text{Dev.}}{\text{S. E.}} = 0.93.$