

# Cultivation of Buckwheat on Up-Country Patanas

BY

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**E**XPERIMENTS and field-trials carried out at Bopatalawa Cattle Farm during the last one year have shown that Buckwheat (*Fagopyrum-sagittatum*) grows very well on up-country patanas, and that it is an excellent crop for soil improvement on these lands.

Experience in the past shows, that improved pastures, with both grasses and legumes, cannot be established with success on virgin patana land, and that it is possible only after the soil is brought to good physical condition by growing a rotation of different crops. One of the main difficulties, however, in adopting this practice has been the non-availability of a crop able to provide a good cover and to produce a reasonable yield on newly opened patana land. Buckwheat has now proved very useful as a first crop on virgin patana and a big problem involved in pasture establishment and crop production on this type of land has therefore now been satisfactorily solved.

In November, 1951, a small quantity of Buckwheat seed was obtained from Denmark and subsequently, during the same month, two half-acre blocks of fairly steep patana (1 : 25) were planted with this seed. The land was manured prior to planting as follows:  $\frac{1}{2}$  ton lime, 1 cwt. basic slag, 1 cwt. cyanamide and  $\frac{1}{2}$  cwt. of muriate of potash per acre. The crops of Buckwheat were ready for harvest  $3\frac{1}{2}$  months later and gave the following amounts of seed. Block 1—1,554 lb. per acre and Block 2—900 lb. per acre. On block 2, the seed rate had been too heavy and an excess vegetative growth was the result, while on block 1, although the same seed rate had been used, the vegetative growth was less due to a natural thinning out by a heavy wash, which took place the day the block was sown. The plants reached 3 to  $3\frac{1}{2}$  feet in height and made an excellent cover smothering almost all weeds.

Since then Buckwheat has been grown on a much larger scale and the results have been very satisfactory when taking the quality of land used into consideration. At present more than 50 acres at Bopatalawa and about 15 acres at Ambawela are under Buckwheat. From the results we have got in hand during 9 months field cultivation the following conclusions can be made:—

(1) Buckwheat tolerates acidity of soils to a large extent; however, if high yields are to be obtained a slight dressing of lime is recommended—( $\frac{1}{2}$  ton per acre every 2 years may be adopted as a rule).

(2) Buckwheat responds well to application of phosphatic fertilizer and also to some extent to nitrogen and potash fertilizers. Pot-experiments being carried out at present indicate that there is no need to supply any minor elements except in cases where a heavy dressing of lime is applied;

under these circumstances there seems to be a definite need for Manganese. The rate of fertilizer application now adopted is: 1 cwt. basic slag,  $\frac{1}{2}$  cwt. cyanamide and  $\frac{1}{2}$  cwt. muriate of potash per acre.

(3) The seed rate should be between 50 to 60 lb. per acre for grain crops and about 70 lb. per acre if the purpose is a green crop.

(4) The seeds germinate very quickly and the plants appear about 4 days after sowing. The crop is able to check soil erosion completely once the plants are 14 days old (even on steeper areas).

(5) Buckwheat can produce a very good green crop in about  $2\frac{1}{2}$  months time from the date of planting. The green crop is readily eaten by cattle and is of fairly high nutritive value. (Care must, however, be taken when feeding green Buckwheat, because, when fed in big quantities to cattle exposed to strong sunlight, it sometimes may cause a kind of skin excema).

(6) The average yield of grain per acre obtained at Bopatalawa is 1,200 lb. The yields have, however, been considerably higher on such fields where a 1st class seed bed could be prepared. The grains are readily eaten by all types of livestock and the feeding value is close to that of oats.

(7) The straw left over from the grain crop provides excellent bedding, but is unpalatable and of low feeding value.

(8) Buckwheat is a hardy crop, which tolerates to a large extent both wet and dry weather conditions. It is, however, very essential that the weather should be dry at the time of harvest, as the seed when matured fall off very easily. The time for harvesting a grain crop is not always easy to decide upon, as all seeds do not mature at once. (Seeds keep on maturing sometimes over a period of three weeks). The day of harvest should therefore be carefully selected.

(9) Buckwheat has been tried also at lowland stations, but although it grows fairly well (to about  $2\frac{1}{2}$  ft.) it does not produce much seed.

The explanation as to why Buckwheat is able to produce so well even on virgin patana land, most probably lies in the fact that the plants are very shallow rooted. It has been noted, that after ploughing a patana-grass sward, it takes a long time for this sward to decompose and while the deep rooted crops fail to thrive under such conditions, the shallow rooted Buckwheat does well.

There is a marked difference in the condition of the soil after a Buckwheat crop and the land can then with success be used for other crops. The following rotation is now being used at Bopatalawa:—

- (1) (On virgin patana), Buckwheat. Manuring: 1 cwt. basic slag,  $\frac{1}{2}$  cwt. cyanamide,  $\frac{1}{2}$  cwt. muriate of potash.
- (2) Lupins mixed with Sunflower. 1 cwt. basic slag, 1 cwt. muriate of potash and  $\frac{1}{2}$  cwt. of cyanamide.
- (3) Radish for feeding. 10 tons cattle manure per acre.
- (4) Buckwheat  $\frac{1}{2}$  seed rate as nurse crop for pasture (in order to avoid soil erosion).

A dressing of  $\frac{1}{2}$  ton lime per acre is given every 2 years.—Finally it may be mentioned that Buckwheat is insect-pollinated and attracts a large number of bees.



Bopats Unit 2.—Buckwheat on partially terraced land with separate riser banks of original Patna Grass preserved