

These livestock enterprises could be combined with irrigated cropland. In some irrigated areas (particularly in Former Sind) 60-acre units could be established consisting of (say) 10 acres of perennially irrigated cropland and 50 acres of high water-table but non-irrigated fringe land.

One alternative would be to pasture flocks or herds on the otherwise unused fringe areas, and to grow cotton, sugarcane or sorghum on the irrigated acres during the kharif season. During rabi, livestock could be removed from pastures and fed on irrigated berseem, sorghum fodder, and sugarcane tops.

A flock of fifty ewes could be carried on the fifty acres of grassland during kharif and these might be expected to raise at least fifty lambs. If the lambs were to be fattened on the farm, 100 sheep would require feed and care through the rabi months. Each animal would need approximately $1\frac{3}{4}$ pounds of TDN (total digestible nutrients) per day.⁽⁷⁾ The total requirement for 100 sheep would be 300 mds of TDN for the 4-5 month season. Since rabi fodders yield about 40 maunds of TDN per acre, $7\frac{1}{2}$ acres of irrigated production could supply this requirement.⁽⁸⁾

The "opportunity-cost" of using rabi water for forage production might be evaluated in terms of the wheat that could be grown with an equivalent amount of resources. Assuming a wheat price of Rs 12.8 per naund, a per acre yield of 12.4 maunds, and a water requirement equal to that of rabi fodder, the "loss" from not growing wheat should be Rs 1190 ($7\frac{1}{2} \times 12.4 \times 12.8$). However, the "gain" would be the sale of 50 sheep at Rs 25 per head (Rs 1250) plus the wool clip from the ewe flock ($50 \times \text{Rs } 5 = \text{Rs } 250$), minus the amortized cost of pature development—an increase of about 10 to 15 percent above the return earned by wheat.

(7) See, Morrison, F. B., Feeds, and Feeding, (22nd ed.), pages 1089 and 1090 for complete nutrient requirements of sheep.

(8) Estimated by agronomists from Hunting Technical Services.