

and optimize resource use and to identify credit problems associated with the optimum plan. Optimum farm plans for different size of farms under existing as well as improved technology with cash borrowings were developed using Linear Programming.

The study revealed that under the existing cropping pattern, paddy and wheat occupied the maximum area in the Kharif and Rabi season, respectively. Low productivity followed by a large family labour cost component resulted in negative net returns for all the crops, except soybean, on all the size group of farms.

The optimum plans obtained suggested crop specialization on all the size of farms with existing as well as improved farm practices. Under existing technology, soybean and potato emerged in the optimum plan for small and medium size farmers whereas paddy and potato emerged in the optimum plan for large size farmers. With improved technology only soybean in Kharif and potato in Rabi emerged in the optimum plan on all the types of farms. By the adoption of new farm technology the income multiplied by as much as 9, 13, and 28 times on small, medium and large size farms, respectively. No cash borrowings were required for the optimum plan under existing technology. In the optimum plan under improved technology credit requirement of Rs. 461.20, 1,305.40 and 1 477.00 in Rabi were required by small, medium and large size farms, respectively.

Vadnere, S. 1988. Economics of Mentha Processing—A Case Study of a Processing Plant in Kashipur Block of Nainital District. G. B. Pant University of Agriculture and Technology, Pantnagar, Nainital. *Major Adviser* : A. N. Sharma.

The study was conducted by selecting a mentha processing plant in Kashipur block of Nainital district. In order to study the economics of mentha processing, three commonly grown species of mentha were taken into consideration i.e. *Mentha arvensis*, *Mentha piperata* and *Mentha citrata*. The processing of these species was studied which consisted of (i) distillation and (ii) crystallization. It was found that only in case of *Mentha arvensis* crystallization was done.

Costs and returns were calculated separately for distillation and crystallization for a period of four years i.e. 1984, 1985, 1986 and 1987. Cost and net returns per kg of oil were calculated species-wise for all the four years. In processing it was found that the net returns/month in case of distillation ranged from Rs. 13918.37 to Rs. 28037.79 while in case of crystallization it ranged from Rs. 40508.95 to Rs. 78944.37.