

## INTERCROPPING PULSE AND OILSEEDS WITH KODO MILLET UNDER DRYLAND CONDITIONS

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Intercropping of cereals with pulses and oilseeds assumes special significance in dryland agriculture. The information on intercropping pulse and oilseeds with kodo millet (*Paspalum scrobiculatum* L.) is scanty for the mixed red black soils of Madhya Pradesh. Hence the possibility of cultivating kodo millet with the intercrops, mung bean (*Vigna radiata* L. Wilzek), sesame (*Sesamum indicum* L.) and soybean (*Glycine max* L. Merr.) was explored.

Thirteen treatments for cropping system i.e. kodomillet pure, kodo millet + mung bean, sesamum + soybean, each in the ratios of 1: 1, 2: 1, 4: 1 and 8: 1 were tested in a Randomized Block Design with three replications during kharif 1984-85 and 1985-86. The varieties of kodo millet, mung bean, sesamum and soybean were 'IPS-147-1', 'Pusa Baisakhi', 'N-69-1' and 'JS-75-1', respectively. Half the dose of nitrogen (20 kg N/ha) and full dose of phosphorus (20 kg P<sub>2</sub>O<sub>5</sub>/ha) were applied basally and the remaining half of nitrogen was top dressed four weeks after sowing. The income equivalent ratio was determined as the ratio of net returns in intercropping to the net returns by sole crop at the same level of land.

### Crop yields

The pure crop of kodo millet gave an average yield of 1192 kg/ha (Table 1). In intercropping in general, the high grain yield of kodo millet was observed in its intercropping with mung bean.

With its branched and tall plants, sesamum appeared to be competitive to kodo millet which ultimately gave poor grain yield. Comparatively higher yield of kodo millet intercropped with sesamum in the ratio of 8:1 sustained this point of view. Higher yields of companion crops were recorded in the 1:1 and 2:1 crop ratios. Among pulses, soybean gave higher yield in intercropping followed by mung bean while sesamum recorded the lowest grain yield. The results indicated that canopy of soybean followed by mung bean was suitable for intercropping in kodo millet. Singh et al. (1973) and Chandrawanshi (1974) have also observed similar trend in intercropping of cereals with soybean.