

## POTATO BASED INTENSIVE CROPPING SYSTEMS FOR NILGIRIS

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To improve the cropping intensity of Nilgiris region, trials were conducted during 2003 and 2004 summer seasons at Muthorai with various inter crop combinations. During 2003, three intercrops, viz., wheat, french beans and maize were tried with seven, nine and nine treatments, respectively under three different trials. Considering the performance of different intercrops during 2003, a trial was planned during summer, 2004 with wheat, French beans and maize as intercrops in potato. The treatments include three combinations each of intercrops and all the four pure crops totaling to 13. The potato equivalent yield was highest in potato + french beans intercropping when sown in 75 : 50 proportions followed by the treatment, potato + frenchbeans at 50 : 50 proportions. The net revenue of the same treatments i.e., potato + french beans at 75 : 50 and 50 : 50 proportions was higher i.e., Rs. 70,055/- and Rs. 65,820/-per ha as compared with other combinations. Although potato + maize performed better at 75 : 50 proportions, but due to longer duration of maize in this area, it can not be considered as a profitable proposition. Hence, potato + french beans at 75 : 50 is the most suitable intercrop combination for the Nilgiris region. It also improved the soil fertility status by improving the organic carbon status as well as available P and K content of the soil.

## CORRELATION STUDIES ON WEEDS AND TUBER YIELD IN POTATO

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Two experiments on chemical weed control in potato cultivar Kufri Badshah were conducted during autumn season of 2001-2002 and 2002-2003 at Hisar. Total tuber yield was related to number and dry weight of weeds recorded at 30, 60, and 90 days after planting (DAP), number and yield of A (>125g), B (>75-125g), C (>25-75g) and D (<25g) grade tubers and total tuber number in both the experiments were recorded separately during both these years. Dry weight and number of weeds recorded at 30, 60 and 90 DAP had negative and significant correlation with the total tuber yield. It shows that data on weed population recorded at 30 or 60 DAP can give clear indication of the final tuber yield to be obtained if the weeds are not removed during the crop season. Yield as well as number of A and B grade tubers had positive and significant correlation with total tuber yield indicating that factors, which improve size of tubers, also have beneficial effect on total tuber yield. Yield as well as number of C grade tubers also had positive and significant correlation with total tuber yield. Relationship of total tuber yield with the yield and number of D (<25g) grade tubers was inconsistent. Total tuber yield had highly significant and positive relationship with total tuber number in both the experiments and during both the years indicating that factors that influence total tuber number also influence tuber yield. It may be concluded that weed population at early stages of crop growth can give indication of final tuber yield.