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EFFECT OF POULTRY MANURE ON POTATO PRODUCTION UNDER RAINFED CONDITION OF MEGHALAYA  
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In a field study conducted at Shillong during 2003 and 2004 with poultry manure in combination with inorganic fertilizers, the maximum tuber yield (236 q/ha) was recorded with the application of 100% inorganic fertilizers. The application of 25% poultry manure along with 75% inorganic fertilizers gave tuber yield of 228 q/ha which was at par with 100% inorganic fertilizer treatments, suggesting that 25% inorganic fertilizers may be substituted with poultry manure as organic source without any significant loss in tuber yield. The yield of medium sized (30-50 g) tubers improved with the increasing dose of poultry manure in combination with inorganic fertilizers.

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EFFECT OF BIOFERTILIZERS ON GROWTH AND YIELD OF POTATO IN NORTH EASTERN HILLS OF INDIA  
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In a field experiment conducted during summer season of 2002 and 2003 at Shillong, two levels of N and P (75 and 100 percent) were evaluated in combination with biofertilizers, viz., Azotobacter, Bacillus and both Azotobacter + phosphobacterium. The highest tuber yield was recorded in treatment consisting of 100% NP + phosphobacterium + Azotobacter + 1% urea +1% sodium bicarbonate solution (233.8 q/ha) followed by application of 75% NP + Azotobacter + phosphobacterium + 1% urea + 1% sodium bicarbonate solution (229.8 q/ha). Treatment of seed tubers with Bacillus also gave at par tuber yield. The results revealed that input of inorganic fertilizers, viz., N and P can be reduced by 25% when biofertilizers are used for potato production.

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EFFECT OF FYM, BIOFERTILIZER AND INORGANIC FERTILIZER ON POTATO  
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A field experiment was conducted at Hisar to study the combined effect of FYM, biofertilizer and inorganic fertilizer on potato. Well-sprouted tubers of cv. Kufri Bahar were planted in the last week of October and haulm cutting was done at 105 days after planting. Treatments consisted of combinations of 75 and 100% of recommended dose of NPK (N:P:K; 150:80:100kg/ha) with control, FYM @20t/ha and biofertilizers. For biofertilizer, tubers were treated with Azotobacter and phosphobacteria before planting. Treating of seed tubers with biofertilizer significantly improved total tuber yield, yield of large size tubers and tuber number, during both the years and at both the doses of fertilizers, however improvement was more at 75% recommended dose of NPK. Biofertilizers also improved net return at both the doses of fertilizers. FYM @ 20t/ha in addition to inorganic fertilizer significantly improved total tuber yield, yield of large size tubers and tuber number during both the years and at both the doses of fertilizers. FYM also improved the net return at both the doses of fertilizers and during both the years. Reducing the recommended dose of NPK by 25% significantly reduced total tuber yield, yield of large size tubers, tuber number and net return. It may be concluded that in potato, it is beneficial to treat seed tubers with biofertilizers (Azotobacter and phosphobacteria) and add FYM @ 20t/ha every year in addition to recommended dose of NPK.