

Effect of Different Type, Rate of Fertilizers and Time of Sampling on Soil Nitrogen Content and Nitrogen Uptake by Onion Crop Grown In Sandy Regosols

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ABSTRACT. A field trial was conducted to study the effect of different type, rate of fertilizers and time of sampling on soil nitrogen content and nitrogen uptake by onion crop grown in sandy regosols. There were twelve treatments and replicated four times. Organic manures such as Poultry Manure (PM), Rice Straw (RS) and Cattle Manure (CM) with control was tested at three levels of chemical fertilizers including control (unfertilized), recommended level (NPK) and half of the recommended level ($\frac{1}{2}$ NPK). PM and CM were applied at the rate of 10 tons/ha, but RS was at 5 tons/ha.

The results revealed that among the manures, onions grown on PM treated soil ranked first in crop nitrogen uptake and it was followed by CM treatment. But onion plants on RS treated soil ranked last. Same trend was observed in soil nitrogen content. It may be due to higher nutrient content and faster rate of decomposition of PM.

Results also indicated that onion grown on NPK treated soil uptake highest amount of nitrogen than $\frac{1}{2}$ NPK treated soil. Same trend also observed in soil nitrogen content. But the time of sampling explained that with aging of crop, nitrogen uptake was rapidly increased and soil nitrogen content was decreased.

The interaction effect of fertilizers results indicated that onion grown on soil received PM with NPK, registered highest amount of nitrogen uptake. And it was followed by PM with $\frac{1}{2}$ NPK and CM with NPK. However nitrogen uptake from RS treated soil was lower than control.

Key words: Chemical Fertilizers, Nitrogen Uptake by Onion, Organic Manures, Soil Nitrogen Content, Time of Sampling.

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