

Impact of Organic fertilizer in Onion Production

Introduction

Onion is one of the important commercial Spices crop grown in a district. Onion becomes so important bulb crop because it is short duration and quick growing having various uses (as vegetables, spices and medicinal) and can be cultivated as an intercrop in earlier years of plantation crops especially orange. In Amravati district, the area under onion was 2695 ha and production was 22760 metric tons during 2000-01. However the area was reduced to only 1485 ha with a production of 11880 metric tones only in 2005-06 (SAD 2007). This indicates that both area and production was in decreasing trend due to various factors mostly due to non-availability of quality seeds, less use & availability of organic manure, depleting water table & poor rate of adoption of improved package of practices.

Problem identified:

The use of local seed and less use of organic manures affected the Onion production and storage life. Moreover the farmers are not aware about the techniques to prolong the shelf life of onion at room temperature after harvesting.

At the time of survey farmers reported the problem of short shelf life after harvesting at room temperature damaging the produce in storage. Also, after analysis of problem it is seen that in a district there is tremendous scope for increasing productivity by use of organic fertilizers. The soil and climate is also suitable for onion production in the district. There is partial adoption of improved technology by the onion growers. So, over come to this problem Krishi Vigyan Kendra conducted the demonstration on farmer's field at Pimpalkhuta village of Amravati district.

Experiment as Designed:

Under this trial, eight beneficiaries were selected from Pimpalkhuta village. Three treatment was given on same plot in the month of January 1999 are as under. The plot size under each treatment was 0.10 ha

- a. T₁ - Check Plot@125-130 Kg. Nitrogen +50 Kg P₂O₅/ha
- b. T₂ - Vermicompost @ 5000 kg /ha.
- c. T₃ - Vermicompost @ 5000 kg /ha+ P.S.B @2 Kg /ha.

After Seed bed preparation Vermicompost @ 5000 kg /ha was sprayed uniformly over first 0.10 ha area in treatment (T₂) then in second treatment (T₃) added Vermicompost @ 5000 kg /ha+ P.S.B @2 Kg /ha added in second 0.10 ha area. And remaining part treated as Check plot and was treated with chemical fertilizer @125-130 Kg. Nitrogen +50 Kg P₂O₅/ha



KVK scientist visit to demonstration plot

Experimental Result:

The data resulted that the application of vermicompost@ 5000kg/ha + PSB@ 2kg/ha resulted in higher yield 275.0q/ha as compared to the sole use of Vermicompost (247.50q/ha) and chemical fertilizers (220.0q/ha). Average diameter of neck of onion bulb at the time of harvest was 2.05cm in the plots treated with of vermicompost@ 5000kg/ha + PSB@ 2kg/ha as compared to 1.88cm & 1.64cm in plots treated with Vermicompost @ 5000 kg /ha& application of chemical fertilizer @125-130 Kg. Nitrogen +50 Kg P₂O₅/ha, respectively.

Thus it could be concluded that use of vermicompost and PSB increased the yield, bulb size as could be judged from average diameter of neck of onion bulb. The use of Biofertilizer is very essential for increasing the crop yield, keeping quality, and also for improving the soil fertility as well as keeping life of Onion in storage at room temperature.



Production of Onion under different treatment

Impact :

The Krishi Vigyan Kendra, selected the Pimpalkhuta as a focal village and conducted various activities like training programme, FLD and On farm testing. KVK mainly stressed on a vegetable commodity because this village was nearer to city and most of the farmers was interested to grow the vegetables but they were lack in technical support. So after entry of KVK, horticulture scientist boosted the confidence of farmer about innovative technology of Vegetable production and conducted the OFT on Organic Onion Production. Due to planned intervention farmers could harvested 25% higher yield over traditional farmers practice and increase the storage life of the onion. This encouraged other farmers about the organic cultivation of onion and themselves decided to produce onion using vermicompost and in next year all benefited farmers purchased the 20q vemicompost from KVK production unit and grown the onion under the guidance of KVK scientist. This resulted in average yield 260q bulb/ha with bigger bulb size, good luster and taste.

- 1) Farmers get the bumper yield 1st time in his life with good quality
- 2) Stored the onion up to the month of October end with good quality.
- 3) Due to the storage of onion up to October they fetched higher rate i.e. is up to Rs.700/q than Rs.350/q



Farmer observing experimental Onion Plot

Ultimately due to this result the confidence again built up and in next year farmers fix up the target up to two ha area each on vermicompost. Now a day's interested rural people came to them for guidance on onion production and they emerged as facilitator for farmers. Now, majority of village farmers taking the benefits of KVK technology on their farm. The horizontal impact of same technology was nearly to 37 % in the whole district.

In this way intellectual efforts of farmers turned in to success farming and now they become a village level scientist.