

## Arka Rakshak tomato to solve farmer woes

Arka Rakshak tomato seed variety was promoted under the Farmer FIRST Programme as an alternative to local varieties among the farmers in the Kasdol block of Chhattisgarh to overcome the challenges faced by the tomato cultivators such as pest and disease attack, low quality, lack of scientific production, and lack of resources and technical know-how. Increased yield with an initial yield potential of 75-80 t/ha was recorded after the use of the disease-resistant variety with better quality fruits suitable for distant marketing.

**T**OMATO is one of the important vegetable crops grown in India. India is yet to achieve the yield potential of 60-80 t/ha due to low adoption of hybrids and other factors such as occurrence of pests, diseases and abiotic factors. Among biotic factors, diseases like tomato leaf curl virus (ToLCV), bacterial wilt (BW) and early blight (EB) cause yield loss up to 70-100%. The Indian Institute of Horticultural Research, Bengaluru for the first time in India developed the triple disease resistant tomato hybrid Arka Rakshak which is resistant to the three prominent diseases with the initial yield potential of 75-80 t/ha. Fruits of the hybrid are square round, large (90-100 g), deep red with very firm fruits and suitable for fresh distant marketing.

### Focus area

Small and marginal vegetable growers of villages covered under the Farmers First Programme.



### Performance Indicators

Technical observation	Farmer's practice	Intervention
<b>Yield (q/ha)</b>	36.20	49.60
<b>Economic indicators</b>		
Cost of cultivation (₹/ha)	31,175	29,500
Net income (₹/ha)	41,225	69,700
B:C ratio	1.32	2.14
Farmer's reaction	<ul style="list-style-type: none"> <li>• Arka Rakshaks is very good variety with disease resistance and higher yield</li> <li>• Scientific production technology is cost effective</li> <li>• Good keeping quality and taste</li> <li>• Ready to bring more area under tomato cultivation</li> </ul>	

### Challenges

Tomato has been the predominantly grown vegetable crop in the region since many years. However, the farmers used local varieties with seeds purchased from private companies and input suppliers. They lacked the technical knowledge of tomato cultivation and were often affected by severe pest and diseases and hence suffered major losses. Tomato leaf curl virus (ToLCV) and bacterial wilt (BW) are the major problem in the area and the cost of cultivation is high due to periodic pesticide spraying. The yield is also





less. Farmers also faced other problems such as shortage of labour, lack of suitable varieties, low technical knowledge and low quality produce.

#### **Extension activity adopted**

During the baseline survey and field visit, it was found that the farmers were practicing traditional methods of tomato cultivation with the locally available seeds and varieties. They were facing problems such as low production, high pest and disease infestation etc. After identifying the problems, Arka Rakshak tomato seed variety was purchased from ICAR-IIHR, Bengaluru and was distributed to the farmers in the area. Various capacity production programmes for scientific production and adoption of plant protection measures were organised. As a result the farmers received good quality tomatoes with increased yield.

#### **Impact and Lessons Learnt**

Earlier, majority of the farmers had to depend upon local input dealers for purchasing inputs related to agriculture. After the extensive extension work carried out in the area by providing trainings, the farmers started to adopt scientific method of farming. This resulted in reduced cost of cultivation and increased production.

#### **SUMMARY**

The disease-resistant variety helped the small and



marginal vegetable growers in the area to get better yield and market prices. The FFP programme also helped to overcome the technological barriers faced by the farmers by providing the needed technical knowledge and training.

*For further interaction, please write to:*

**P Moventhan** (Scientist), ICAR-National Institute of Biotic Stress Management, Raipur, Chhattisgarh. Email: [agriventhan@yahoo.co.in](mailto:agriventhan@yahoo.co.in)