



Success story

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INTRODUCTION

Description :

Arunachal Pradesh has rich resources of soil and agro-climate making them an ideal region for horticulture industry. Reflecting scope of wide adaptability of various temperate fruits and vegetable crops.

West Kameng: It is estimated that approximately 4700 Sq. Km. is alpine while approximately 33,500 Sq.Km. is in temperate Zone in North East covering areas of Tawang, Sela pass, Dirang, Bomdila, in West Kameng District of Arunachal Pradesh. The average annual rainfall 143.3 mm, maximum temperature in Summer 16.87 deg C, minimum temperature in winter -0.5 deg C and highest Peak in the district is Kangte with an altitude of 7090 meters above mean sea level, These temperate and sub-temperate fruits and others horticulture crops like spices and medicinal plants and sub-alpine nut crops like Hazelnut, Chestnut, Pasta, Walnut and dry fruits hold a high promise for commercialization and Horticulture revolution in the North East Region. The horticulture crops are this region.

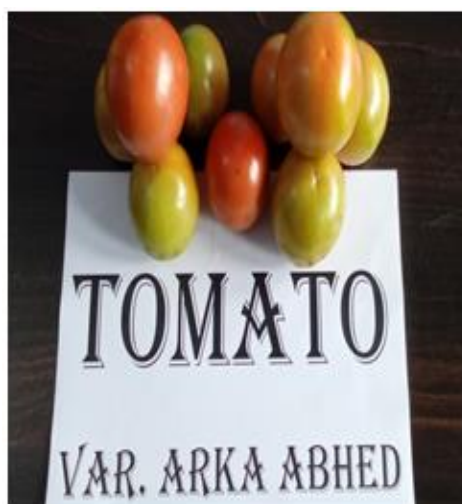
The farmers of West Kameng can produce tomato all year round Tomato is an important vegetable crop and plays a major role in the food and nutrition security of the people of West Kameng. Production has increased in the recent decades but improvement in the fruit yield and quality remains suboptimal. Limited access to the best-adapted tomato varieties to the local conditions, pests and diseases are the major limiting factors for improving productivity.



Mr. Rinchin Dorjee is the name of such a Progressive farmer who has completely devoted his Life to farming.. He worked hard on the Integrated Farming System and produced income through IFS, he also cultivation of vegetable crops specially Tomato crop but this area farmers also grow up large cultivated of Tomato crop but main problem is here huge uses of Fungicides and Pesticides in Tomato crop. Beerpur village, part of the vegetable belt of Tenga, has seen increased adoption of Hybrid Tomato cultivation as a means of income generation. However, most farmers of the district cultivated of hybrid Tomato like Rockey, Chirnjeeve varieties. These varieties have highly susceptible from Late blight disease, therefore maximum farmers of the district uses of more fungicides (Indofil) for the control of late blight. Which is more dangerous for health and humain.

In the year 2023 & 24, the KVK Scientist guided and advice him to Scientific production of Tomato crop var. Arka Abhed and don't do spray of and fungicides and Pesticides. He got through it and gained knowledge for producing Arka Abhed Tomato without any chemicals. Thereafter with continuous technical guidance and he started producing of the organic Tomato Arka abhed and earning more income in small area of tomato through this variety

To address these challenges, Krishi Vigyan Kendra, West Kameng, Arunachal Pradesh initiated an On-Farm Testing (OFT) under its 2023 Action Plan to evaluate the performance of the blight resistance variety of Tomato variety *Arka Abhed* developed by ICAR-IIHR. Five village of the Dirang and Kalktang circle of the district, were selected for the trial.



Prior to the implementation of trail in Two Years, First year was OFT and Second year was FLD, and an one-day on-campus training programme at KVK Campus, and Beerpur village was conducted of the Tenga focusin scientific cultivation practices of *Arka Abhed*.

The recommended package of practices included:
Seed rate: 150 gm
FYM: 15-25 tonnes/ha
Spacing: 45x60cm
Each farmer received 10 gm of *Arka Abhed* seeds for the trial.

Table1. Yield attributes obtained under demonstration in Tomato Year (2023&24)(Two Session data)

Hybrid/ variety	Plant height (cm)	Fruits/Plant(kg)	Days taken to harvest	Fruit diameter(cm)	Fruit weight(gm)
ArkaAbhed	90	3.1	140.10	7.5	122.98

Mr. Rinchin Dorjee cultivated Arka Abhed on sowing seeds on 2023 & 2024. Yield data was collected The Plant height, Fruits/plant, Days taken to harvest Fruit diameter, Fruit weight and Yield etc from 1ha plot size. The Plant height

was recorded of Arka Abhed 90 cm, fruits per plant 3.1 kg, Days taken to harvest in Arka Abhed 140.10 days, fruit size was recorded 7.5 cm, fruit weight was recorded in Arka Abed 122.98 gm.

Table: 2 Economic of Tomato cultivation under FLD in Year (2023& 24)

Hybrid/ variety	Yield (t/ha)	Gross returns	Cost of cultivation	Net return	B.C
Arka Abhed	49	4,080,000	60,000	4,020,000	6.8

The Economic indicators i.e. gross expenditure, gross returns, net returns and BC ratio of demonstrations are presented in Table 2.

Yield of the Tomato observed 49 t/ha and the economics of Tomato gross cost of is Rs. 60,000/- , and Gross return Rs.4,080,000/-, Net return calculated in Arka Abhed variety Rs.

4,20,000/-, and Benefit cost ratio found 6.8 in Arka Abhed followed by others.

He reported no pest and disease incidence, in this crop, additionally; he harvested and sold, fresh fruits of Tomato and generating extra income compression than other variety of Tomato. He observed that the *Arka Abhed variety of Tomato is better for this area.*