

DOCUMENTATION ON THE PACKAGE AND PRACTICES OF TRADITIONAL TOMATO CULTIVATION AT LAITKYNSEW

A. History of the traditional 'Laitkynsew' tomato:

- The exact time of its introduction in the village was not known however it has been cultivated in the village for the last 200 years according to the village community.
- The tomato is grown in all the four localities of the village Laitkynsew whereas the main cultivation as well as production comes from the Lumwahkrem locality.
- The Laitkynsew tomato is also cultivated at Nongwar village however the skin of the fruit is thicker than the one cultivated at Laitkynsew.
- Trials of the same variety (under controlled conditions) have also been conducted in other places like Shillong, Ri-bhoi, Mairang, etc. however only a profuse vegetative growth (6-7ft height) was observed with less fruiting.
- Characteristics of the 'Laitkynsew Tomato':
 - ✓ Tomatoes are purely organic
 - ✓ The texture is very soft and juicy
 - ✓ The outer skin is very thin
 - ✓ The fruit has a beefsteak type of structure
 - ✓ Approximate height 3-4 feet



Fig. 54(a): Nursery of tomato in a hanging tub



Fig. 54(b): Traditional basket for Packaging and marketing of tomato

B. Cultivation Methods

I. Nursery raising techniques:	
a. Seed bed preparation	<ul style="list-style-type: none"> ▪ Top soil is collected in a tray or basin and used for raising the nursery
b. Varieties	<ul style="list-style-type: none"> ▪ Laitkynsew
c. Seed rate	<ul style="list-style-type: none"> ▪ No exact seed rate ▪ The seeds are broadcasted uniformly in the basin/tray
d. Seed treatment	<ul style="list-style-type: none"> ▪ No seed treatment
e. Sowing time	<ul style="list-style-type: none"> ▪ Mid-August to September
f. Manuring	<ul style="list-style-type: none"> ▪ No cow dung is added as this will promote damping-off of the seedlings ▪ The top soil is the only source of nutrition
g. Irrigation	<ul style="list-style-type: none"> ▪ Watering is done daily

h. Days to Hardening	<ul style="list-style-type: none"> Two weeks after transplanting
i. Hardening method	<ul style="list-style-type: none"> The seedlings are hardened by transplanting into the nursery bed in the field when they have at least three leaves foliage The nursery soil is mixed with only a low amount of cow-dung The nursery beds are covered with polythene if rain occurs
j. Days to transplanting	<ul style="list-style-type: none"> The seedlings are hardened for two weeks and transplanted into the main fields
k. Transplanting techniques	<ul style="list-style-type: none"> The seedlings which are healthy with better foliage are selected for transplanting The seedling are transplanted along with the root soil intacted
l. Pest and diseases in Nursery	<ul style="list-style-type: none"> Some of the common pest and diseases observed: Damping off, White grub and thrips like insect

II. Seed saving techniques:	
a. Source of Seed	<ul style="list-style-type: none"> Self seed saving (approx 200 years)
b. Seed saving techniques	<ul style="list-style-type: none"> Wet extraction technique
c. Extraction techniques	<ul style="list-style-type: none"> Selection of a good mother plant Scrapping of the seeds from the fruit These seeds are collected in a bowl/container and kept for 2-3 days in open space The seeds are then washed in water and filtered with the help of a muslin cloth The seeds are then dried in the sun
d. Storing techniques	<ul style="list-style-type: none"> The dried seeds are stored in the muslin cloth itself in a moisture free environment
e. Viability of the seeds	<ul style="list-style-type: none"> Two years
f. Challenges in Seed storing	<ul style="list-style-type: none"> No challenges faced as such

III. Cultivation practices	
Soil & Field preparation	<ul style="list-style-type: none"> The soil is ploughed thoroughly where in the borders of the field are used for planting of tomatoes Holes are dug at a spacing one feet along the border of the field
Time of transplanting	<ul style="list-style-type: none"> Mid-September up to October
Seedling Treatment	<ul style="list-style-type: none"> No seedling treatment followed
Spacing	<ul style="list-style-type: none"> 1 feet from plant to plant Cultivated in a single row as a border crop
Cropping system	<ul style="list-style-type: none"> Inter-cropping with cabbage, carrot, lettuce, mustard
Intercultural practices:	<ul style="list-style-type: none"> Staking with bamboos during tomato fruiting
Manuring	<p><i>Process of Manuring in tomatoes:</i></p> <ul style="list-style-type: none"> All biomass available in the field are collected in a heap and burnt. The burnt biomass is then mixed with cow-dung. Around 1-2kg of this manure is then applied in each hole where the tomatoes are to be transplanted.
Weeding	<ul style="list-style-type: none"> Weeding is done occasionally when required that is approximately 2 to 3 times per season

Irrigation	<ul style="list-style-type: none"> ▪ Irrigation is carried out on daily basis during the dry season ▪ It is irrigated manually using water pipes
Pest infestation	<p><i>Observed pest infestation:</i></p> <ul style="list-style-type: none"> i). Fruit borer ii). Rat
Diseases infestation	<p><i>Observed disease infestation:</i></p> <ul style="list-style-type: none"> i). Blight ii). Wilting (4-5 years ago)
Duration	<ul style="list-style-type: none"> ▪ 5 months
Harvesting	<ul style="list-style-type: none"> ▪ Fruits are harvested once they turn yellowish in colour ▪ Harvest begins from the last week of December and extends up to the beginning of April (when rain is scanty)
Yield	<ul style="list-style-type: none"> ▪ 3-5 kg/ Plant

IV. Post harvest management	
a. Storage	<ul style="list-style-type: none"> ▪ The fruits are spread on the floor and stored in an open room ▪ Stacking is not advice as this compromises fruit quality
b. Packaging	<ul style="list-style-type: none"> ▪ Each fruit is wrapped in a newspaper and kept in locally made boxes and marketed
c. Shelf life	<ul style="list-style-type: none"> ▪ 1 month
d. Post harvest loses	<ul style="list-style-type: none"> ▪ 1\10 of the harvested fruits are damage during transportation
e. Post harvest pest and diseases	<ul style="list-style-type: none"> ▪ Rat infestation is commonly observed when the fruits are not harvested on time from the fields
f. Constraints	<ul style="list-style-type: none"> ▪ No proper storage facilities

V. Marketing Strategies:	
a. Quantity of production from village	<ul style="list-style-type: none"> ▪ 20 tonnes
b. Market price in different months	<ul style="list-style-type: none"> ▪ Initial Harvest (late December to January) : Rs 100-120/kg ▪ Final Harvest (March-April): 70- 80/kg
c. Target markets	<ul style="list-style-type: none"> ▪ Sohra, Shillong(Iewduh)
d. Marketing system	<ul style="list-style-type: none"> ▪ On farm marketing ▪ Individual marketing system
e. Marketing challenges	<ul style="list-style-type: none"> ▪ Marketing of the harvested Tomatoes is linked through the middleman which leads to a decrease in selling price of the tomatoes ▪ The selling price quoted by the farmer decreases with time whereas the cost price of the tomatoes in the market remains the same (eg. Farmer's price- 120/Kg to 70/kg; Market price : 120/kg throughout)