

BRIMATO BRINGS HOPE – AN INNOVATION THAT CAN HELP DOUBLE FARMER'S INCOME

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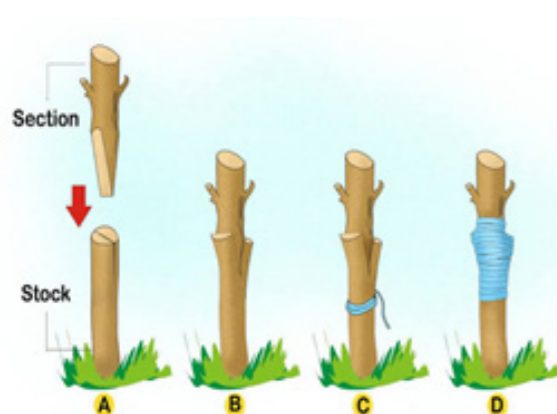
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INTRODUCTION

India is primarily an agricultural country and of course the words India and agriculture cannot be separated. Agriculture in India dates back to the times of Indus valley civilization. Indian agriculture has amazingly transformed itself from self deficit to self sufficient one with the efforts of many masterminds of the country. Unfortunately the economic status of the farmers of the country did not change in pace with the changes in agriculture. There is definitely a need to improve the condition of the farmers who selflessly contribute to the wellbeing of the citizens of the nation. The Indian government in this regard is with a vision to double the farmer's income. While there are many ways being concentrated to achieve this, Grafting is notable one which has immense potential to increase crop productivity by increasing tolerance to different biotic and abiotic stresses.

WHAT IS GRAFTING?

Grafting is a propagation method in which a portion of one plant is placed into the other plant which may be stem, root or branch. This way a union is formed between both and they further continue to grow together. The portion which is added is called scion and the portion that provides the root is called stock.



Grafting method has its own advantages which are mentioned below:

- It is the fastest way of growing desired plant varieties on a large scale which saves time and money.
- It is preferable in case of plants that are difficult to propagate through layering and cutting.
- Scions which are precious varieties may have poor rooting system and have poor resistance towards pathogens. These limitations can be overcome by grafting it on its hardy, wild relative taken as stock.
- Also recent innovation helps to graft multiple scions on a single stock to produce more than one type from a single plant.

BRIMATO – A GROUND BREAKING INNOVATION USING GRAFTING

Indian Council of Agricultural Research-Indian Institute of Vegetable Research, Varanasi recently demonstrated in the field the dual grafting of Brinjal and Tomato and named it as Brimato combining the names of the two plants. Dual grafting is a multiple grafting method in which two scions of the same family are grafted together which helps us to harvest more than one type of vegetable from a single plant. The two scions that were used for grafting are Kashi Sandesh, a Brinjal hybrid and Kashi Aman, an improved cultivar of Tomato. The root stock selected was IC 111056, a Brinjal variety.



The age of Brinjal seedlings were 25 to 30 days and that of Tomato were 22 to 25 days at the time of grafting. Side/ splice method of grafting was followed in which 5 to 7 MM (45°) slant cuts were made in both stock and scion. The seedlings were immediately transferred to a controlled environment for an initial 5 to 7 days and then to partial shade for another 5 to 7 days. As stated by the scientists of IVRI, 15 to 18 days after the grafting operation, these are transplanted in the field and care was taken to ensure balanced growth in both the seedlings. 25 tonnes of FYM were applied along with Fertilizers of 150:60:100 kg NPK/ha. Fruiting was observed in both the plants 60 to 70 days after planting. 2.383 kg yields were realised in 36 fruits harvested in Tomato/plant and 2.684kg yields were realised from 9.2 fruits/ plant in Brinjal.

BRIMATO – A BOON TO FARMING COMMUNITY

- The plant is environment friendly since it is not developed using genetic engineering methods.
- Two vegetables being produced on the same plant helps to save space making it easy to grow in urban as well as semi urban areas with limited spaces and houses with small balconies.
- It is especially beneficial to the vegetable growers with small acreage as it can increase the productivity in limited space and with reduced inputs.

CONCLUSION

In a country like India where there is almost no scope to increase the area under cultivation to increase the productivity, Grafting has become an excellent alternative to maximise productivity. Developing these types of grafted plants which can produce two types of vegetables on a single plant can become a boon to farmers with small land holdings who can successfully reap benefits by reducing cost of the inputs. Though research is still underway for the production of “Brimato” on a commercial scale at ICAR-IIVR, Varanasi, this miracle plant is definitely giving us a ray of hope to help double farmer’s income.

