USING A WEED RELATIVE TO TURN TREE TOMATO RESISTANT TO DROUGHT AND DISEASES IN KENYA

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SCIENCE PRIZE WINNER 2014

INNOVATION

Tree tomato is an important source of vitamins A and C that are lacking in many African diets.

The innovation involves wedge grafting a scion taken from tree tomato, *Solanum betaceum* on to the rootstock of a wild relative of tree tomato, bugweed, *Solanum mauritianum*. The grafted plants prove to be drought tolerant and disease resistant.

Training on Kitchen Garden Day

The Innovator: Stephen N. Wainaina is the Executive Director of the NGO Organic Agriculture Centre of Kenya. The mission of the NGO is to promote sustainable agriculture for development of the vulnerable small scale farmers in the Eastern Aberdare Agro Ecosystem. Education, training and income generation through sustainable, organic agriculture are the means employed to reach the goals.

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DESCRIPTION

The method involves vegetative grafting tree tomato scion on to the rootstock of its wild relative, bugweed. Both plants belong to the family of potato and tomato.

Bugweed is resistant to diseases and drought. It shows a healthy growth in the wild, where it is found green throughout the year.

Wainaina with a farmer and her child

Grafting the two plants improves the stem and root system, as the grafted fruit plant has a stronger anchoring and more extensive root system. Tree tomato being shallow rooted, profits from the deep tap root and the many strong auxiliary roots of the bugweed rootsock.

Ripe tree tomato fruits

RELEVANCE

Low intake of vitamins by around 50 million African children put them at risk of deficiencies, and this is considered to be the third biggest public health problem in Africa after HIV/AIDS and Malaria.

Vitamin C is essential for protecting cells, keeping the body healthy and for absorption of iron from food. Tree tomato is a rich source of vitamins A and C.

Grafting the crop and its wild relative has improved the hardiness, drought tolerance, long term resistance to diseases and pests of tree tomato.

The grafted plants bear improved fruits, can be used for own consumption, or sold to earn extra money and improve the household income. The grafted plants also provide fodder for livestock.

The innovation is attractive for use in both highlands and lowlands of Kenya. There is a high demand among producers for grafted tree tomato seedlings. As the quality fruits attract higher prices, there is a rising demand to extend production.

A farmers' group during training

OFIA
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It is an initiative of the government of South Korea in remembrance of the Organic World Congress (OWC) 2011 held in its Gyeonggi Province. The OFIA Committee selects a Grand Prize and a Science Prize winner based on the criteria of innovativeness, applicability, relevance and impact potential. For more information on OFIA, visit www.ifoam.bio/ofia.

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