Article: RT0438

Biotica Research Today

Vol 2:12 1308 / 1310

2020

3G Cutting: A Wonderful Technique to Redouble the Production of Cucurbits

Dilip Kumar Chaurasiya[1*], Mohit Kumar[1], Sangita Sahni[1] and Siddharth Singh[2]

[1]Dept. of Plant Pathology, Dr. Rajendra Prasad Central Agricultural, University, Pusa, Samastipur, Bihar (848 125), India

[2]Dept. of Plant Pathology, Bidhan Chandra Krishi Viswavidyalaya, Mohanpur, West Bengal (741 252), India

Open Access

Corresponding Author

Dilip Kumar Chaurasiya

e-mail: dilipkchaurasiya39@gmail.com

Keywords

3G cutting, Branches, Cucurbits, Generation

Article History

Received in 3rd December 2020

Received in revised form 27th December 2020

Accepted in final form 28th December 2020

E-mail: *bioticapublications@gmail.com*

How to cite this article?

Chaurasiya *et al.*, 2020. 3G Cutting: A Wonderful Technique to Redouble the Production of Cucurbits. Biotica Research Today 2(12): 1308-1310

Abstract

Cucurbits include Pumpkin, Cucumber, Sponge gourd, Bottle gourd, Bitter gourd, Snake gourd, Ridge gourd, and many more. There is an increasing problem of low fruit set and fruit sets; a very major problem faced by farmers in present time. This problem arises due to the rapid decrease in beneficial insects and other pollinators as a result of the haphazard use of chemical pesticides. This article would provide broader knowledge to the vegetable grower to guide on properly doing 3G cutting in cucurbits plant.

Introduction

As the word 3G in case of a network increases our internet speed likewise there is a technique called 3G cutting plants that increases our plant production in geometric ratio. Farmers can increase our production drastically and exponentially if they know the exact technique of 3G cutting. 3G cutting can be simply described as the scientific process applied in plants to obtain greater production by increasing the number of female flowers through the process of pruning and trimming the tip of first and second-generation branches.

In 3G cutting, 3G refers to three branches i.e. up to 3rd generation (Tertiary) branches. It increases production 3 to 4 times and hence it is used in agriculture. 3G simple refers to 3rd (Third) generation in any Crops. 3G cutting is a technique of promoting the growth of 3rd generation (Tertiary) branches by excluding 1st and 2nd generations. After seed germination, only one main branch continues to grow which is referred to as 1st generation branch. The main branch gives another branch which is referred to as 2nd generation branch. Further, when 2nd generation branch gives rise to another branch it is referred to as 3rd generation branch.

It is found that 1st and 2nd generation branches comprise a much more number of male flowers rather than female flowers (14:1) in them. This creates a false illusion of heavy flowering in farmers but results in a very low fruit set. 3rd generation branch flushes with greater no of female flower in comparison to 1st and 2nd generation branches. So, with a high number of female flowers and proper pollination, high fruit set per branch is seen per plant. This helps farmers to obtain higher yield per production per branch or plant. Therefore, the main focus should be kept on keeping 3rd generation branch.

Principle of 3G Cutting

We all know the fruit develops from pistillate flowers. That means pistillate flowers have an ultimate role in the development of fruits though there is a necessity for the male flower also. This means if we obtain more pistillate flowers in a plant then we can get more fruits.

Consequently, the role of 3G cutting is to intensify the number of pistillate flowers in a plant.

Generally, the ratio of male and female flowers is unequal in most of the crops. So that number of staminate flowers will be higher in comparison to female flowers.

It has been observed that after 3G cutting, the number of female flowers increases and becomes more or equal to male flowers in a crop. This will ultimately increase crop production in a great way.

The ratio of staminate flower to pistillate flower in the Cucurbitaceae family before and after 3G cutting is:

Before 3G cutting	After 3G cutting
Male:Female = 14:1	Male:Female = 1:2

So, there is a great increase in female flowers after 3g cutting. Less number of male flowers can also pollinate a large number of female flowers.

Procedure of 3G Cutting

As we all know, 3G cutting is one of the essential inter-cultural operations that need to be followed for attaining higher yield in Cucurbits as well as other vegetable cultivation. Here are the following steps that should be taken while carrying out 3G cutting:

• The main branch growing from the sown seed should be allowed to grow with proper maintenance and carefulness.

• The tip portion of the main branch should be cut off about 4-5 inches when the branch reaches a height of 7-8 fit (gourds) or 5-6 fit (cucumber and pumpkin).

• The removal of the apical portion promotes the growth of the secondary branch.

• When the secondary branch reaches the height of 2-3 fit, its tip portion should also be removed as the previous one. This promotes the growth of the tertiary or 3rd generation branch.

• Now the 3rd generation branch should be allowed to grow with proper fertilization of nutrients and care.

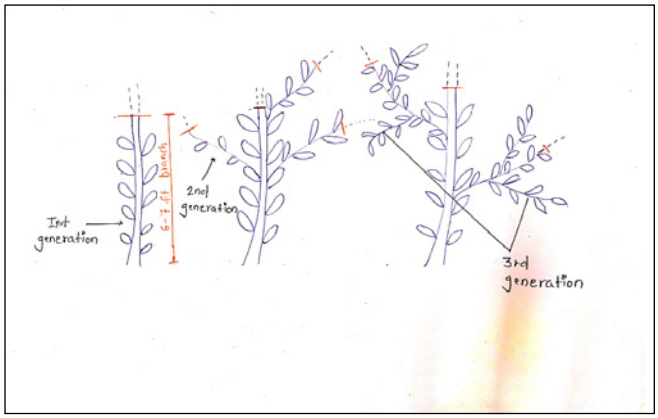

Figure 1: Adult stem weevil

Results

When the tips of side branches are cut off then large number of 3rd generation side branches develops, after some days-Flowering starts. The plant develops male flowers in 1st and 2nd generation branches but in 3rd generation branches there develops large number of female flowers.

Figure 2: Glance of 3G cutting in bottle guard (Var- Narendra shivani)

Plants Compatible for 3G Cutting

• 3G cutting is popular and successful in the Cucurbitaceous family.

• However, it can be done in other crops also.

• Here is the list of crops in which 3G cutting is successful:

- ✓ Bottle Gourd
- ✓ Ridge Gourd
- ✓ Cucumber
- ✓ Pumpkin
- ✓ Tomato
- ✓ Brinjal
- ✓ Lady finger

Pros and Cons of 3G Cutting

Pros

• We can drastically accelerate our production through this cutting.

• A large amount of production can be harvested in a small area. This solves the problem of land scarcity.

• The quality and size of fruits will be of very high quality.

• As production increases, 3G cutting helps to generate more income from a small area.

Cons

• After the trimming of the tip, the vegetative phase of the plant increases and thus takes a long time to make flowers and fruit.

• 3G cutting needs good technical knowledge otherwise it may cause loss.

• There is a chance of disease and fungal infection at the part which is trimmed out. So, proper care should be done.

• Farmers more often find 3G cutting as a tiresome job to do.

Special attention should be given to the following points:

• As the crop germinates, there should not be any side branches until (5-6) leaves from the ground. The reason is there is no production of female flowers in these branches.

• The main stem should be grown properly. It should attain a height of (8-10) feet for 1st trimming.

• Before 5 leafed stage heights, no side branches should be allowed to develop. If any branches develop, you should pinch it out. This makes the base strong.

• Soil shouldn't be dry during 3G cutting. There should be proper moisture in the soil.

• The plant should be kept in proper sunlight.

• The plant should be trimmed so that it doesn't become bushy. If the plant becomes bushy, sunlight cannot enter into plants and fruits become small.

Conclusion

Thus, from the whole article, we have got the information that 3G cutting in plants has immense potential. The farmers should make aware of this technique to increase their production and profit. But, if we don't know the way of doing it, then our plant may die and we might lose all our production.

Acknowledgment

I would like to express my special thanks of gratitude to Dr. S. P. Singh, Former Dean, College of Horticulture and Forestry, NDUAT, Ayodhya for providing seed material and proper guidance.

References

Adhikari, M., 2020. 3G cutting: Revolutionary technique for doubling yield in cucurbit crops. (agritechnepal.com)

Bhattarai, P., 2020. 3G Cutting: Process and Benefits. Agricultural Guide. (https://guide2agriculture.com/3g-cutting)

RV, 2020. Get 4 Times More Yield By 3G Cutting of Plants. (https://hashtagguys.in/category/terrace-gardening/)