

Gerbera

Practice & Theory

Selected chapters:

Chapter 9:

Preparations
applied before
sending abroad
gerbera plant for
fast propagation
institutions.

Lecture - 9

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Photos by the author



The ability of the Gerbera plant to proliferate in tissue-culture, is promoting our industry.

The presentation is about the preparations-practices used before shipping gerbera plants for fast propagation Institutions.

In the photo 6 plants of the a selected candidate for fast propagation. →



August 2017, 6 plants of Selection no. 113 - 115.

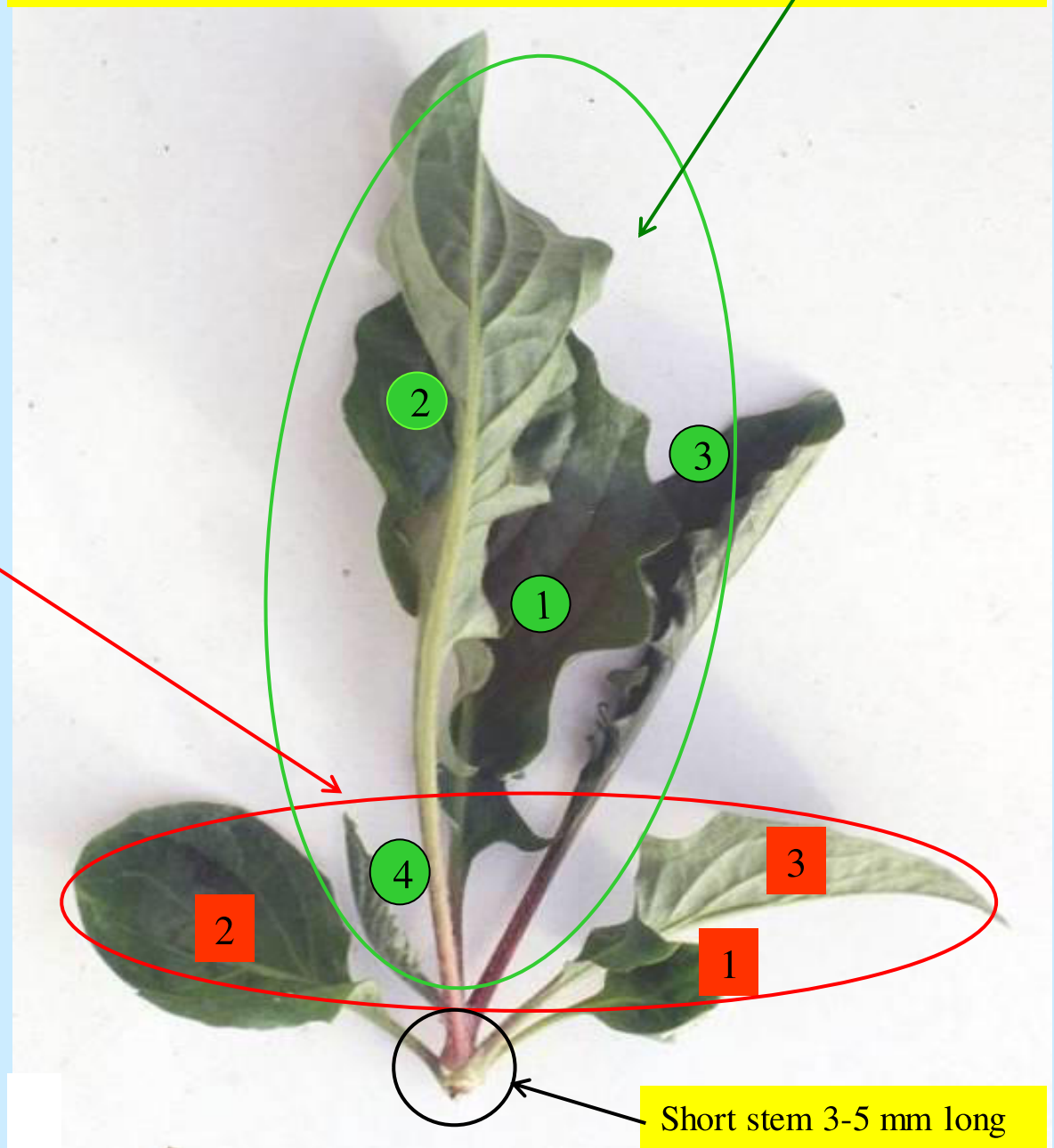
The structure of a gerbera branch -

A Branch of a young juvenile gerbera seedling, have the same unique structure as a mature gerbera branch, normally consist of short compressed stem (3-5mm) and carries 4 emarginated leaves.

However as in the photo: a germinated gerbera seedling have 3 Juvenile leaves. Two develop from the 2 cotyledons of the gerbera seed, plus a third typical round leaf. *And that is besides the 4 mature leaves that develop later above the juvenile plant's tissues.

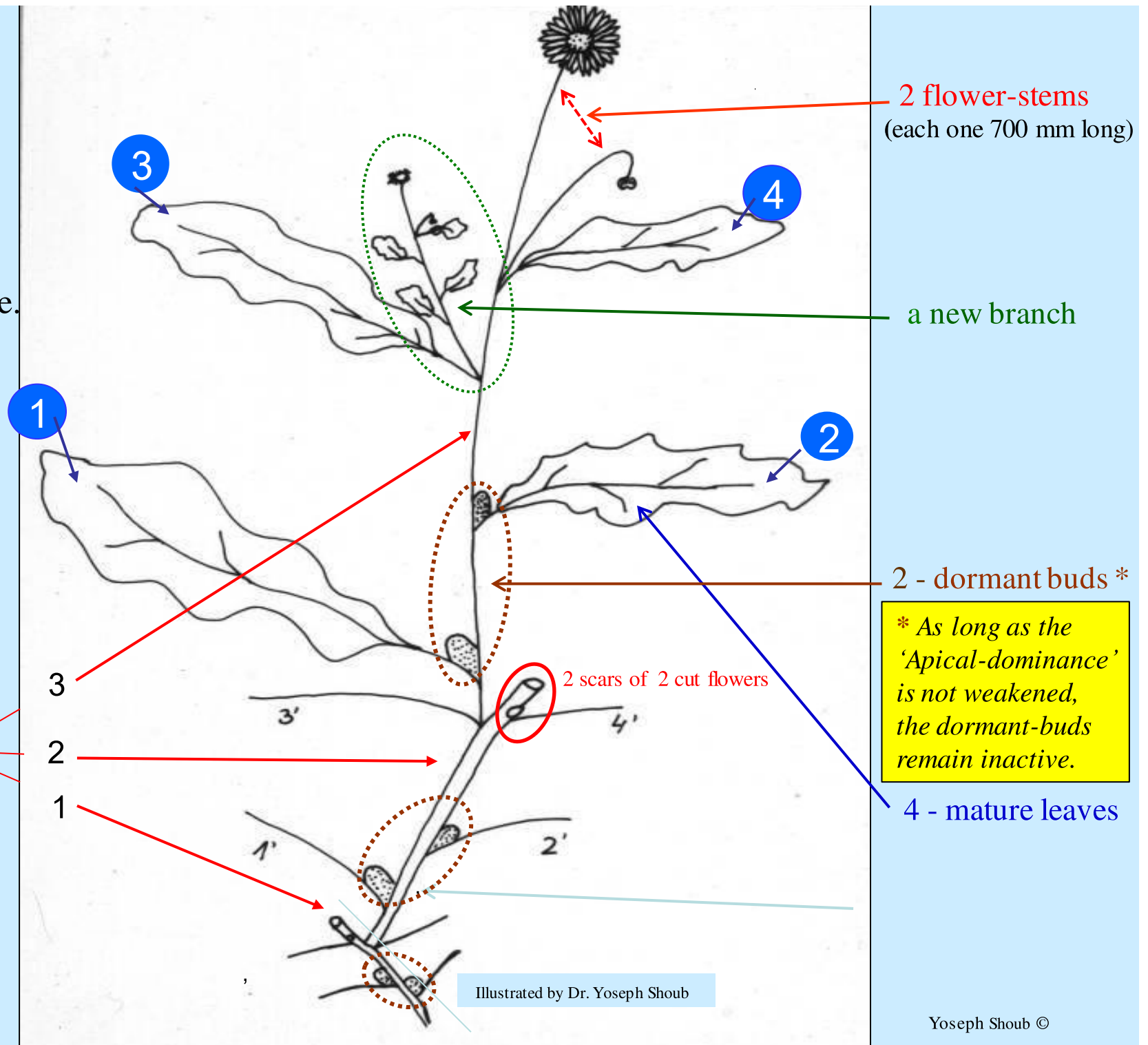
* *Round juvenile leaves are also the typical leaves of a tissue-culture young gerbera plantlets.*

The First Branch of a germinating gerbera seed, is consist of 2 - 3 juvenile round leaves, and 4 emarginated mature leaves.



A Scheme of a typical succession growth, of 3 gerbera branches, creating upward the 'growth-center', and downward the rhizome.

3 mature branches
(each one 3-5 mm long)



In the photo, our variety 'Marilla', one and a half years old, developed in our greenhouse in Coco-peat media, in 4 liter container.

Its size and its many side-branches, enables to detach most of the independent side-branches, for the buds extraction in the Tissue Culture (T.C.) Laboratory .





‘Marinilla’ Side-branches and cleared roots-system.





The side-branches with their roots are detached from the mother-plant's rhizome, by a sharp cutter, or simply by the grower's hands.

Yoseph Shoub ©





Preparing the detached side-branches for T.C. Laboratories -

The method that we have used for many years is described in the next following slides.

Two months ago (07. 2020) we tried successfully new practical method of preparing plant material for the same matter.*

* It summarized in the last presentation slide.

First Method

Cut Side-branch with its base and roots.
The leaves blades have been cut.



Dry Cleaning -

- > Never use water to wash the cuttings intended to be shipped to the lab.
- > Common home-brush can be used, but only for partial cleaning.
- > Compressed air is used efficiently for cleaning the roots from Soil or any other media left-over particles.

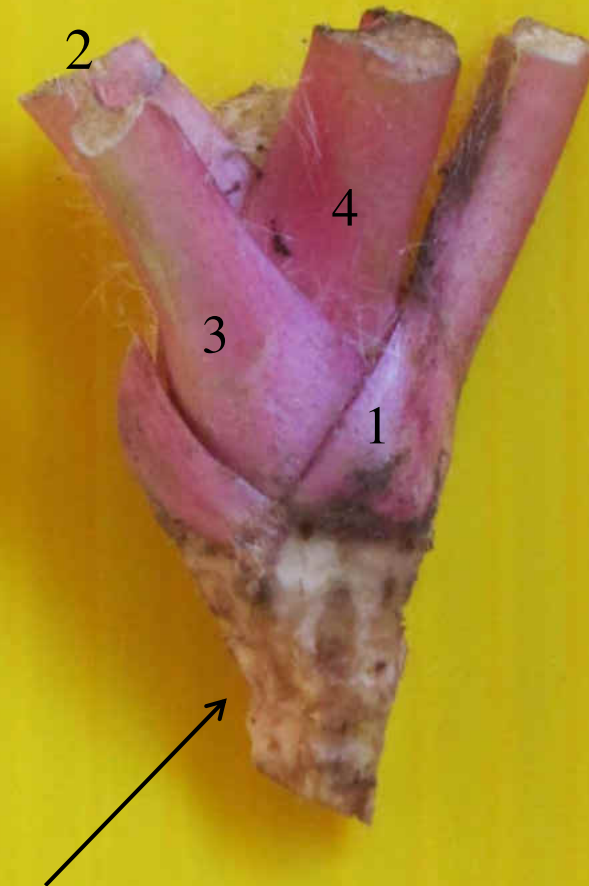


3 'Axil buds' can be used by the T. C. Lab:

The 'Active bud' at the axil of leaf no. 3, and the two 'Dormant-buds' at the Axils of leaves no. 1 & 2.



Separating two branches
by upright cut.



Use a cutter to clean the
old scars from the old branch.

Leave it open until it dries .



4 - 5
Compressed
branches
become →
A rhizome.

Ready to be packed, 4 different cuttings of different selections.

Note that the petioles-bases are covered and protected by crowded white hairs.



After drying and before packing use again the blower.

1. Use only rigid carton, isolated with polystyrene.

2. Door to door shipment may take 60 hours and more; therefore the carton should be kept cool (2C to 8C), throughout and between the flights.

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3. Packing conditions -

As the branches were cut, brushed, etc., and they lost their external natural protection. it is important to pack the cuttings in a bag, in a way that will keep the vitality and the freshness of the cuttings while being packed.

Fungi spores are there and are ready to germinate and endanger the plants' tissue.

Therefore; it is essential to avoid the accumulation of high humidity and condense vapors in the bags and in the carton atmosphere.

Our experience show that it is possible to use thin plastic sandwiches bags, in condition that the cuttings were dried up long enough before being packed in the bags, and in condition that the carton volume remain as long as possible dry. In some occasions we have had problems with our packing.

A new method of preparing side-branches of gerbera for fast propagation -

On mid July 2020 we delivered, for fast propagation, gerbera plant material to T.C. Laboratory in India. This time, we prepared our side-branches in a different way - from the method described in the previous slides.

The technical information is summarized here -

It simple, it saved lots of the preparation time, it kept the freshness of the plant material along 6 shipping days (*the corona difficulties*). The branches didn't lost their external natural protection, as they where not cleaned by cutter blade. It arrived in good condition to the Lab and as a result the laboratory personal where able to extract more active buds from the side branches, in comparison with the previous method.

The variance:

We shorten the leaves' only to 40 - 43cm, and not totally, as in the previous method, the same is with the roots, now 12 - 15cm.

The prepared units where wrapped by moisten news-paper sheet,* and packed in a narrow plastic bags 54cm long. The plastic bags where packed in a carton as in the previous method.

* Because of illustrating reasons (the photo), the plant-material packed in the plastic bag, is not wrapped by a moisten news-paper.

