Article published on May 11th 2012 | Business

A spur in botany is an existing structure in certain plants: it is an elongated sepal with its trailing edge. This structure may have from 1-10 mm in length, and is typically in the center of an even number of sepals. Examples of seagrass with this structure are the genera Delphinium and bung covers . The structure is useful for distinguishing species of certain genera, eg., the bung covers yadonii not readily identifiable from other bung covers except for its unusually short length of its spurs.

Cuttings or cuttings are fragments of plants for a purpose separate reproductive . You can cut fragments of stem and into the land, to produce roots . Rooted plants this way will be identical to their progenitors, ie form with them a clone . There are different ways to make cuttings, depending on the phase of the growth period in which the cut:

Outbreak: These cuttings are cut in spring of shoot tips of rapid growth.

Tender branches: Cut a little later than earlier, when the apical growth of the shoots has slowed, but still green.

Semilignificadas branches: These cuttings are cut in late summer , when growth has slowed, and demd l]] is and shrubs deciduous, during the period of latency, branches and woody, also called stakes in this context.

Reproduction by cuttings is asexual so it only takes one parent.

Steps:

Cut a piece tender and live of the mother plant.

Place in a bowl of water until roots develop. This step can be omitted, and proceed to the next if needed, since before that certain cuttings of certain plants to develop roots, the stem may rot. Experience should be in doubt, testing both steps. More likely is that both steps work.

Bury the cuttings and water very regularly, more than usual.

And if all goes as it should be, in a few days a new plant will produce cloned completely independent of its parent asexual.

A esquizocarpio (or esquizocarpo) is a type of fruit that develops dry indehiscent a gynoecium pluricarpelar. At maturity the esquizocarpio is divided into mericarps of a seed. These mericarps include:

Dehiscent (opening to release the seed) and the geraniums . In this regard are similar to the capsule , but with an additional step.

Indehiscent (remaining closed), as the fruit of the plant carrot or mallow .

In Botany , a stake is a piece of stem with buds (or cutting) of woody that is separated from a tree

or a bush and placed in the ground or on a substrate to take root in it and form a new plant. The stakes, therefore, are a means of vegetative propagation or asexual in many varieties and tree and shrub species. The process of cutting the stake and plant for subsequent rooting is called cuttings . This is a cloning : the stake is genetically identical to the parent plant. If the stake is of small size or is performed with a fragment of a plant semileÃ±oso called peg . 1

Some of the species in which the cuttings are often used for vegetative propagation are willows (Salix), poplar (Populus), linden (Tilia). In general, species with white wood and light lend themselves more easily to this operation, taking root and springing quickly from cuttings. Others, whose wood is hard and resinous, also can be multiplied by this method, such as pines (Pinus) and fir (Abies).

To ensure rooting and branched from the stake is desirable to leave two or three buds at the base thereof, which are then covered with the substrate. It is also desirable to perform some longitudinal incisions at the base of the stake to facilitate the formation of roots.

There are several types of cuttings:

The herbaceous cuttings : is carried out in non-woody plants often late summer.

The plant cuttings Softwood : practiced on the branches developed the same year (still green) when they begin to harden. Conducive to outbreaks Softwood cuttings are easily broken by bending it between your thumb and forefinger, and when new leaves are still small. For most trees, this stage occurs in May, June or July. Be careful not to let the cuttings dry out before planting. Usually quickly take root.

The semi-hard wood cuttings : branches is practiced on the basis of the year has already hardened and the tip, green, still growing (mid July to mid September depending on the species).

The hardwood cuttings : Performed in dormant branches in late autumn, winter or spring. The wood is hard and does not bend easily.

The staking the drowned : practiced at any time, putting the stakes in a bell jar (or enclosing them in a large bottle or a plastic bag failing) to keep the humidity close to 100%. It is necessary to air every two or three days to avoid problems with putrefaction. This technique significantly improves the rooting of cuttings to prevent drying.

The heart stage in plant embryogenesis is a process which is continuous during cell differentiation and initiates the elongation of the cotyledons (or cotyledon in monocots), which in turn defines the condition bilateral embryo . 1 This step in the development process takes its name from the elongated shape of the cotyledons on the central portion of the embryo in dicots.

In the early stages of heart stage, while continuing polarized growth, mainly initiated elongation and distinction of the cotyledons. As polarized growth progresses, the protodermo (immature tissues of the epidermis) starts to differentiate, and the delineation of the apical meristem and root is evident, in addition, in the innermost part form, the procambio, and tissue base that will give rise to vascular tissue, and the cortex and medulla, respectively. Following this guideline, changes occur in the cell walls depending on the type of function that will have each group of cells.

During the stage, the composition of the embryo is divided into three parts: cotyledons (embryonic leaves), epicotyl (containing the tissue is the apical meristem) and hypocotyl (the portion that will rise to the root meristem).

The apical meristem (epicotyl), which form all the structures above posembrionarias cotyledons, is located in the upper portion between the cotyledons, while the root meristem (hypocotyl), which structures will be developed below the cotyledons as the root or rhizome, is adjacent to the tissue that makes up the hanger.

Due to the appearance of a single cotyledon, the apical meristem is developed parallel and lateral to the scutellum (the cotyledon single elongated) held upright during growth in most species. In Gramineae (Poales), 2 but follow the same pattern as the rest of the mocotiledÃ³neas, there is a very particular embryo. It consists of a brief, an epicotyl with the apical meristem covered by several leaf primordia called coleoptile, hypocotyl and root meristem with (with a radicle primordium) covered by a cover called coleoriza.Due to the appearance of a single cotyledon, the apical meristem is developed parallel and lateral to the scutellum (the cotyledon single elongated) held upright during growth in most species. In Gramineae (Poales), 2 but follow the same pattern as the rest of the mocotiledÃ³neas, there is a very particular embryo. It consists of a brief, an epicotyl with the apical meristem covered by several leaf primordia called coleoptile, hypocotyl and root meristem with (with a radicle primordium) covered by a cover called coleoriza.

During this last stage, the embryo almost completely ends the process of cellular differentiation and polarized growth continues. Stretching allows greater distinction of cotyledons gradually forming heart structure (in dicots). In the transition from the heart to the torpedo stage, maintaining the same tissue structure, so that this stage is characterized by the onset of differentiation of vascular tissue, and intracellular accumulation (in cotyledons) of nutrients (carbohydrates, lipids and protein).

Studies 4 have found that the gene PEI1, promotes a transcription factor that enables the transition from stage to stage globular heart is, is linked to the differentiation of the cotyledons. Also, in the topless-1 mutation in May there has been an impediment in the development of the cotyledons, and although in this case it promotes the growth of the embryo in its axis and root apical regions form specified for root meristem in other words, in both axes promotes root development. Another mutation, called shoot meristemless (STM) blocks the full development of apical meristem. This seems to affect several genes encoding transcription factors that maintain the pluripotency of the apical meristem in its adult stage. 5 genes involved in the topless-1 mutation and shoot meristemless have not been fully identified.

Furthermore, experiments 6 carried out on embryos at earlier stages have found that the absence of suspending not allow the development of the embryo to the heart stage, as theorized, since this structure makes hormones (eg gibberellins 7) necessary for the continuation of embryonic development.

It has also been observed that the bilateral condition established between the globular stage and heart stage is maintained during development by the appearance of auxins. 8 auxin concentration has also been considered as an important factor in the differences between the dicots and monotiledÃ³neas development; 9 also can be considered as the appearance of structures and coleorizas coleptilo indirect product of this molecule. The molecule of auxin is known to cause changes in gene expression by promoting degradation of transcription regulatory proteins like the AUX / IAA. 10 This action is recognized during the differentiation and root apical axes of the plant in the heart stage . Thus, as Monopteros genes, 11 which promotes the differentiation of the hypocotyl and root meristem region are affected by the differential concentration of auxin in different regions of the embryo.

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http://www.articleside.com/business-articles/stage-heart-plant-embryogenesis.htm - Article Side

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Article Keywords:
florist kingston,flowers kingston