

Grafting success is influenced by plant conditions, prevailing environment, and experience of the operator. Grafting is a skill, and thus some operators are able to perform it more successfully than others.

Plant Conditions:

Compatibility~the two plants to be united must be compatible (graft compatibility). Even though this union is physical, the two plants should be as closely related genetically as possible for success. It is easiest to stay within species and graft apples onto apples. However, in certain cases, interspecies grafting is successful, as in the case of some almonds and plums, which are successful as scions on peach rootstocks.

Diameter of Parts~the stock diameter must be equal to or larger than the scion diameter. The scion is usually larger than the size of a regular pencil, but some methods of grafting use larger stocks so that several scions can be grafted onto one stock. Scions are usually derived from healthy one year old plants.

Physiological State~grafting is usually done using dormant plants. These plants have no leaves (except in the case of evergreens). In some cases, the rootstock may be actively growing, but the scion should not be growing.

Alignment of Tissues~since grafting is a physical union that depends on the healing of the cut surfaces (wounds)through mitotic division, the cambium tissues of both parts must be properly aligned. They must make contact over as wide an area as possible. If the tissues are not aligned properly, the graft will fail. The graft junction may be tied to keep the alignment in place throughout the healing period.

Environment:

The worst environmental enemy of a new graft is desiccation. Therefore, a newly made graft should be waterproofed. After tying, grafting wax may be applied over the entire surface. Some operators use plastic or rubber ties instead of wax. Either way, the purpose is to prevent desiccation from occurring at the graft junction.

The Operator:

In addition to all of the mentioned factors, the operator should always use a

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sharp knife and make sharp, clean cuts to ensure good contact of tissue. A more experienced operator is likely to have greater success than a novice at grafting.