

KWV VITITEC'S GUIDELINES FOR SUCCESSFUL PLANTING OF A NEW VINEYARD

The following points have been set out to outline the handling, storage and planting of grapevines to assure the optimal establishment of new vineyards

1. Collection of vines

- Phone ahead of time for a collection date.
- Please verify that the correct number of vines, as well as scion and rootstock clones, have been loaded onto the truck as per order.
- Vines need to be kept moist during transportation. Vines will not be loaded if there isn't a protective tarpaulin or covering for them.
- Transport during hot days should preferably be avoided.
- Upon delivery check that each bundle is properly labeled and count the bundles of vines. Keep tags for planting records.

2. Storage prior to planting

- Grapevines can be stored in a cold room for a few months before planting in the vineyard. Pack the vines in an airtight plastic bag and ensure that the cold room has the correct temperature (1-4°C) and humidity control to keep humidity between 70-80%.
- When planting in the same season, place the vines upright in a bin and fill with water past the graft union. Allow them to stand in water for 24hours before planting.
- Vines that have been in the cold room for periods exceeding 6 months need to stand upright for at least 4 days in water before they can be planted in the vineyard. The water level must be above the graft union but below the buds to prevent buds rotting.

- The sudden change from cold to warm temperatures stimulates bud burst and the vines need to be planted as soon as possible.
- Vines can also be acclimatised in a shady spot, preferably in well-drained, sandy soil. Make sure that the graft unions are buried and wash sand in between the vines.
- Vines must remain damp at all times.

3. Planting

- Vines must be planted before buds start to swell, except in the case of cold room vines, where it is preferable that the buds are swollen.
- Vines must not be planted in soil that is either too wet or too dry. In soils that are too wet, roots will die back due to oxygen shortages (waterlogging), i.e. they will turn black and start to rot.
- Don't transport too many vines from the storage area to the vineyard as drying out is a big risk. Only remove what you can plant in a certain time frame. Roots must be kept moist at all times during the planting procedure and vines that are waiting to be planted should be kept in the shade.
- Where vines are to be trimmed before planting choose the most upright cane and remove the rest.
- If cut back to four buds, the vines need to be re-waxed past the graft union. The wax used must have a high melting point and may not contain any hormones. **Re-waxing is not recommended under South African growing conditions.**
- Vines must be placed in wet bags to prevent drying out when taken to the new planting site.

- Planting holes need to be large and deep enough to ensure that roots needn't be cut back too much. The reserves in the roots will ensure that the vine gets off to a good start. Where holes are dug with a spade under wet conditions, ensure that the sides are loosened with a fork to prevent a pot bound effect.
- Prepare a small mound of soil at the bottom of the hole and spread the roots over the soil in all directions.
- Don't trim the roots further back than 20 cm.
- The graft union must be at least 50mm above the ground on even soils and 100mm on uneven terrain.
- Fill up the hole half way and compact lightly with your shoe where there is no irrigation. Where irrigation is available, fill the hole with sand up to ground level and water to allow roots to come into contact with the soil.
- Pull the vine up lightly before the last compaction by shoe. This ensures that the roots penetrate at a steeper angle.
- It is recommended that newly planted vines receive a good watering directly after planting. Under dry-land conditions try to plant early in the season and use a watering cart to transport water to the vineyard.
- Don't place any additives like lime, phosphate, compost or manure in the planting hole. This should have been done with soil preparation.

4. After planting

- When vines have been cut back to one cane or four buds a mound of soil needs to be placed over the graft union to prevent drying out of the vine.

- Alternative planting methods include:
 - where one cane has been left, cut back to four buds when the topmost bud starts to bud.
 - when planting early in the season plant the vines with all its shoots. Trim back the shoots when the topmost buds burst.
 - when planting late in the season, plant vines as is and don't cut back at all
 - hot water treated vines must be planted as is, and only cut back when the top bud burst.
- When planting with plastic, you can cut back earlier but the vines need to be re-waxed. The vines must not touch the plastic as it can lead to the wax melting and damaging the vine as well as the vine drying out. This can be prevented by placing a spade of topsoil on top of the plastic around each vine. Re-waxing is not recommended under South African growing conditions.
- Leave the remaining cane as long as possible and don't cut back to 2 buds.
- The temperature of the soil below the plastic is higher than under normal circumstances and care needs to be taken that the vines get enough water. Since temperatures are higher directly above the plastic, water loss also occurs through the graft union when planted on plastic, hence the need for re-waxing.

5. After care

- After budding, protect the vine against insects and diseases.
- In areas that have strong winds during the growing season, girdling can occur at ground level. Vine can be tied to stakes for support.
- Black maize beetle can eat the bark just below the ground which also causes girdling. They are active in spring time (September and October) as well as March.
- Protect your vines from feeding damage by buck and rabbits.
- Prevent competition by weeds.

- If vines need to be re-planted at a later stage, make sure that the planting hole is double the size of the original hole.

6. Problems after planting

- Problems with new vineyards need to be reported as soon as possible.
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