



**Raisins South Africa
USA Californian
Industry tour 2019
DRIED ON THE VINE**

The main purpose of the tour is to enable raisin representatives and producers in South Africa to observe the management practices and technologies followed by one of the world's leading producers of dried grapes.



The focus of the tour:

1. Silicone Valley – Legends Tour (Apple, Google, Tesla and Stanford University)
2. Fresno – Largest Raisin growing production area in the world
3. Fresno – View the latest harvesting equipment and better understand Dry-on-Vine principles
4. Bakersfield – Visit Sunworld and IFG, new cultivar developers
5. Mechanisation of Production systems
6. Visit world class leading Producers



Observations:

1. Like South Africa the Californian raisin industry is experiencing challenges of rising labour costs and hectares being replaced with nuts.
2. Water scarcity
3. Drying of raisins on the ground, on clean sand, is significantly less labour intensive than drying facilities. Goldens are not produced at the grower but at the processor.
4. The US industry are very well focused on DOV (Dry on vine)

Observations (continued):

5. A lot of new varieties are being cultivated and tested for total drying on the vine
6. There is a lot of very old plantings of Sultana seedless, some 50 years and older. The grower will rather replace with nuts that is less labour intensive.
7. Labour costs is a lot more expensive than South Africa and they are working for 15 dollars per hour.

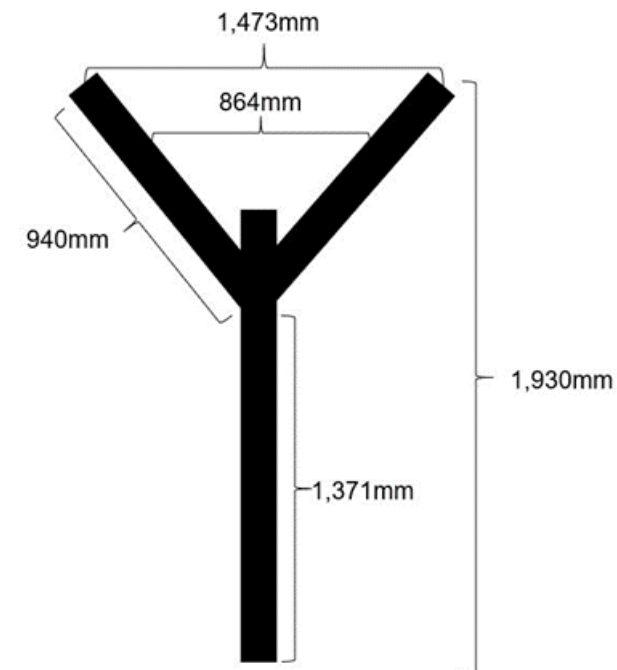


Observations (continued):

8. Irrigation is still connected between furrow even with the water problems. Most of the irrigation is drip. Reliance is mainly on underground water. The depth of the underground water is also increasing. Water is an issue in this area and furthermore is influenced by politics, urban demand and higher use of alternative crops such as nuts.

Fresno State University – Sonet v Zyl

Selma Pete/ Freedom – Good vegetative growth, planted on a V trellis 3.5m x 1.8m. Growth on this vine was in good balance, but a bit too dense in the canopy. It was confirmed with the green shoots not ripening in the canopy.



Selma Pete – Dry on Vine



Density in Canopy – Trellis system?



Give attention to the green shoots in canopy. They experience the same problem as in South Africa with Merbein Seedless because of density.



Drying on paper in the sand



Oxbo harvesters

Interesting facts –

- Shoots are cut and 7 – 10 days later berries are harvested into rows on paper trays. If the berries get too dry the machine struggles to harvest.
- Bunches are thrown on paper trays
- Bunches is harvested earlier, because of late rains. Normally around 18 baling.
- Normally machine harvested up to 8 hectares per day.



American Grape Harvesters

Mechanical Facts –

- 7 Meter long and 5 meter wide, Important for turning space.
- Height of trellising system can go up to 1.9meter.
- One of the beaters had only one rod that is straight and not bowed. The straight one on that specific point, is to harvest spaces where the bunches is difficult to clean out. The straight beaters are a bit harder thus better cleaning out.



Raisins

South Africa



Mechanical Facts -

- Machine speed begins at 0.8 km/h
Speed can later go up to 2km/h and then runs for 12 hours per day. Each day it must be cleaned and serviced.
- Bow rods cost more or less 30 (R530) – 40 dollars (R703) each.
- To break even, a grower needs to harvest at least 4.5 dry tons/hectare.
- Harvested at 12% moisture.
Sometimes, if rainy season starts, can, with exception, harvest at 14%.
- Harvester needs at least 10.7 meter turning space.



Selma Pete ready for harvest

Infield drying and harvesting



DOV – DRY ON VINE – USA FACTS

- Bunches is harvested earlier, because of late rains. Normally around 18 baling.
- Drying normally on DOV vines up to 6 weeks
- Moisture at 16% but when at 10% there is a premium.
- Sometimes in late season struggling to dry after 6 weeks and must then be dried further at processor.
- Normally machine harvested up to 8 hectares per day.



Faster drying?

- Producer doing trials on covering soil with plastic for more heat for faster drying.



Use of plastic cover

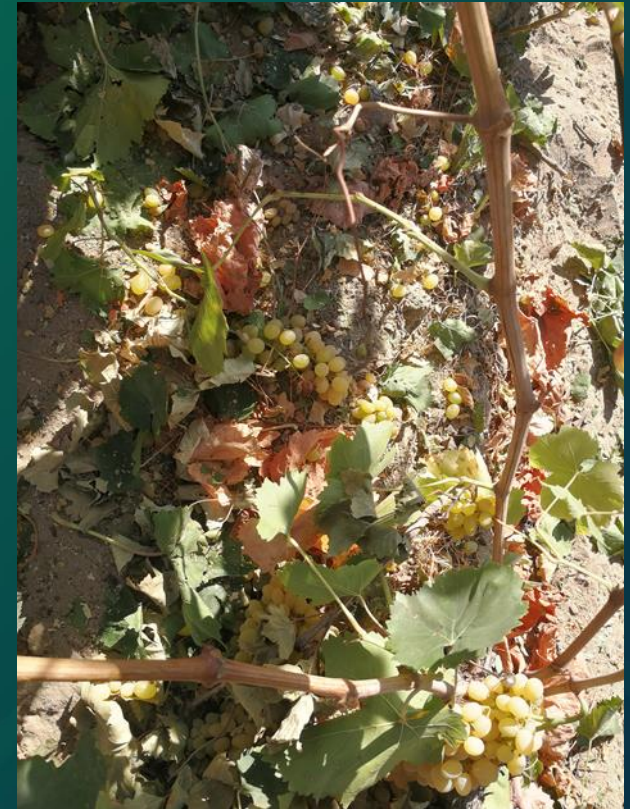
DOV – DRY ON VINE – USA FACTS

- Labour at harvesting is Driver on harvester, Driver on tractor, Two at the back of harvester & tractor, thus 4 people.
- DOV consists more than 1/3 of the total raisins in California.
- Steel poles are preferred.
- Harvest on these old vines are 8 – 10ton/ha wet.
- Nowhere is cover crops. Very clean because of raisins being dried in the land.
- Red spider mite is a big problem because of the dust in areas.



Negatives?

- If machine is harvesting too fast, berries are not harvested clean and wasted. Harvesting speed 3.2km/h



Negatives?

- A lot of the vines are 50 – 80 years old.
- Replanting with other crops e.g. Nuts.
- Struggling with nematodes in sandy soils.



New Vine cost –5 Dollar each (R97.9)?



Trellis systems used

Roof Trellis



**One side left for next
years shoots and crop
bearing**

Raisins
South Africa



Trellis systems used

Roof Trellis



Harvested DOV side

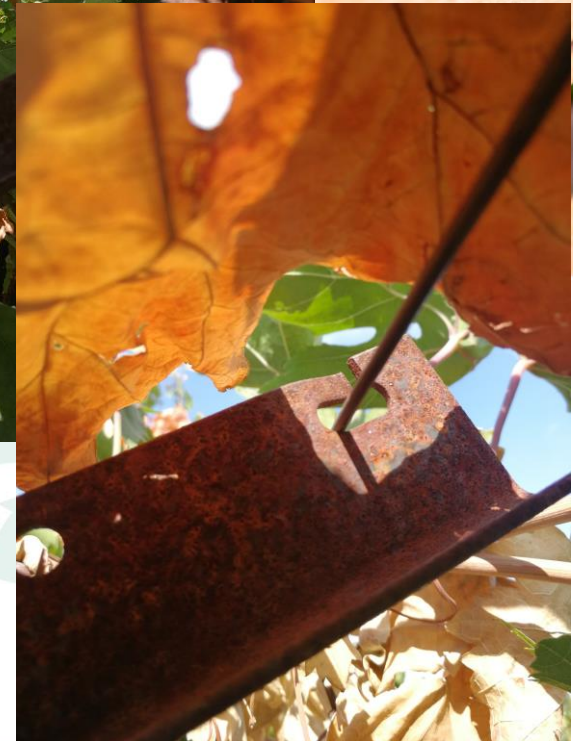


Raisins
South Africa



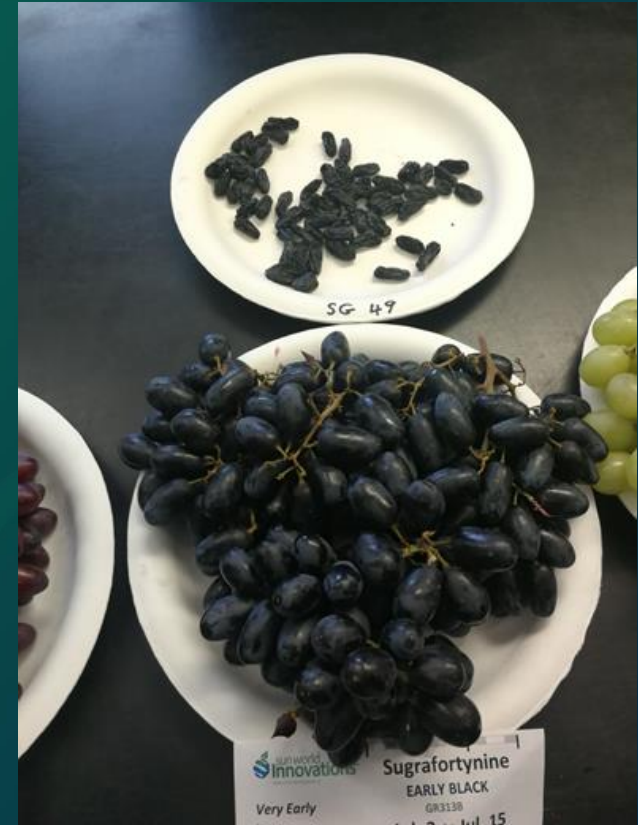
Trellis systems used

V Trellis (Bokhoring)



Private IP Owners

- Doing research on new potential cultivars
- Dry on the vine without cutting the shoots

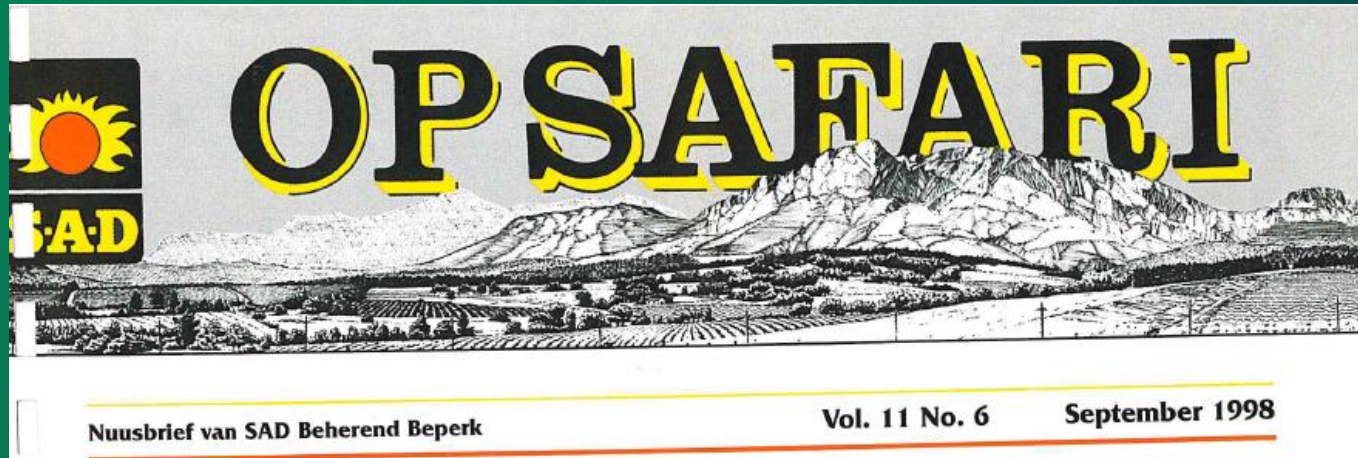


Back at HOME!

- What is happening in South Africa?



No new news – 1998



Droog-aan-die-stok is 'n ideale droogmetode wat hantering beperk en meganiese oes moontlik maak.

South African DOV progress

- New trails planted on 3 different Cultivars to compare: Merbein Seedless, Sugra 39, Selma Pete
- Two trellis systems Shaw 2 and V trellis

Research Co funding with -



South African DOV progress



Hendrik Kuhn harvesting DOV Selma Pete



Hendrik Kuhn harvesting DOV Selma Pete



NJ Wiese picking up raisins - Vanrhynsdorp



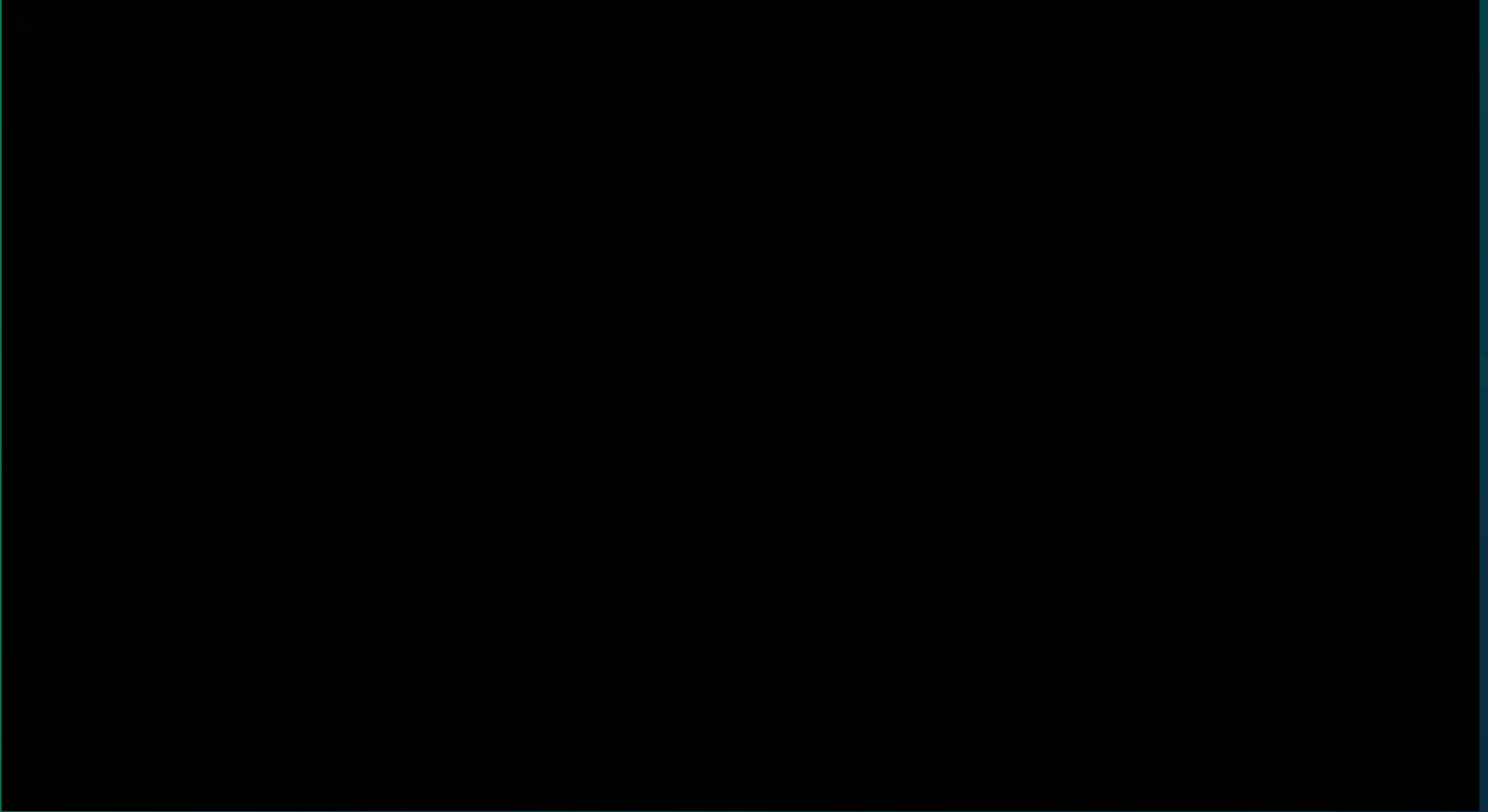
Pierre v Heerden – Selma Pete natural drying in Vredendal.



Gawie Steyn harvesting DOV – Own patent Kanoneiland



SW Regenstein harvesting fresh raisin grapes— Own patent - Geelslang Kanoneiland



IMPLICATIONS FOR SOUTH AFRICAN RAISINS

- The Californian Raisin Industry faces the same issues as South Africa with rising costs of labour, water scarcity, climate change and other crop competitors e.g. Nuts
- Better market understanding of the health benefits of raisins for the user e.g. Contamination.
- To ensure no quality compromise with mechanization.



RECOMMENDATIONS

Mechanization

- Mechanization has its own challenges for practical management as shown with the green shoots. Management practises should be followed and mechanization adapted to practises not the other way.

New Varieties

- Continuous support of new varieties and better labour cost practises is needed for development, as with other challenges e.g. water management.

ACKNOWLEDGEMENTS

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**End.
Thank You**



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Roadmap



- ✓ Appoint steering committee
- ✓ 6-monthly check-ins
- ✓ 10 focus projects
- ✓ ToRs - external / internal service providers

Our Vision

“ To grow a
**sustainable
& competitive**
South African Raisin Industry

Our Mission

“ To generate
**value for our
members & stakeholders**



PROJECT RISE

Raisin Industry Strategic Exercise



Agri Politics...



PROCESS

- ✓ Literature review (done);
- ✓ Workshops (2017 & 2018);
- ✓ Strategy session (15 Oct 2019);
- ✓ Industry Strategy 2020 – 2025



Industry



Labour



Government

**The road
to 2025**