



HERLEWINGSLANDBOU IN SUBTROPIESE GEWASSE

Wat het ons tot hier gebring?

Bram Snijder

Agenda for today

- ▶ Retailer requirements local and overseas
- ▶ Recent drought situation and current orchard management
- ▶ Where did my journey start
- ▶ Lessons learnt during this journey
- ▶ Where are we now
- ▶ What holds the future



Retail pressure

- ▶ Our industries are export orientated
- ▶ This brings lots of accreditations!
- ▶ More and more pressure on sustainable agriculture
 - ▶ - safe the planet, climate change
- ▶ Environmental pressure as well
 - ▶ Dwindling bee populations, chemical interventions



Recent drought

- ▶ Water shortages
- ▶ High temperatures
- ▶ Loss of yield and quality in certain industries
- ▶ Little soil coverage increasing soil health issues



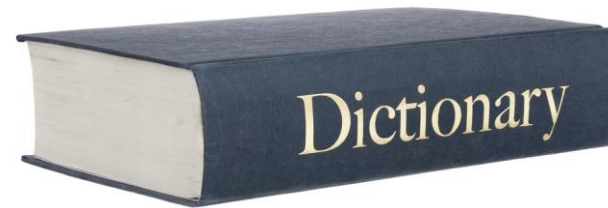
Current orchard management practices

- ▶ Mostly prefer clean cultivation in the tree row
- ▶ Strong use of herbicides
- ▶ Regular mowing between rows
- ▶ Use of ridges which are kept clean



Definitions

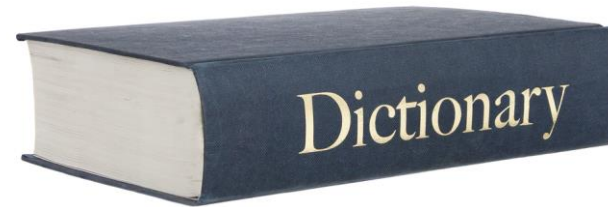
- ▶ Sustainability (Google)
 - ▶ avoidance of the depletion of natural resources in order to maintain an ecological balance.
 - ▶ "the pursuit of global environmental sustainability"



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Definitions

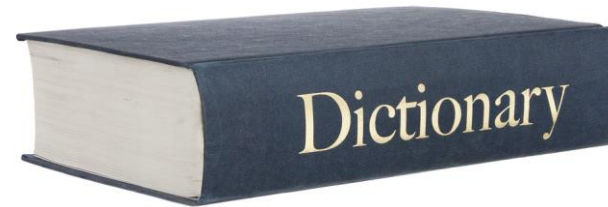
- ▶ Regenerative agriculture (Wikipedia)
 - ▶ a conservation and rehabilitation approach to food and farming systems. It focuses on topsoil regeneration, increasing biodiversity,[1] improving the water cycle,[2] enhancing ecosystem services, supporting biosequestration,[3] increasing resilience to climate change, and strengthening the health and vitality of farm soil.



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Definitions

- ▶ Biological farming (Google)
 - ▶ Biological farming is a chemical free method of farming that focuses on improving the microbiology as a way of increasing plant growth and produce yield.



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Where did my journey start

- ▶ Early 1990's with the late Dr Piet Stassen during my time at the ARC TSC
- ▶ His philosophy was to cover newly planted orchards with cover crops and compost.
- ▶ The idea was born but implementation was halted due to lack of knowledge on cover crops in the subtropics



Where did my journey start

- ▶ In 2003 the late Mr Johan Spies invited me to his farm to see the results of a small compost trial he did
- ▶ After that, I attended a course by Dr Elaine Ingham on the soil food web principles in Tzaneen.
- ▶ Started to implement some sort of integrated orchard management using compost, manures and half organic fertilizers
- ▶ Cover crops was still unattended to



Where did my journey start

- ▶ In 2015 I attended a course given by Graeme Sait from Australia.
- ▶ Although he can be controversial in certain practices, his theories were sound and solid
- ▶ This turned my way of looking at management of orchards to a next level
- ▶ Again lack of knowledge was hampering development of practices as most work was done on field crops or pastures



Where did my journey start

- ▶ Knowledge of cover crops stayed restricted to the winter rainfall areas or field crops
- ▶ Restricted knowledge of indigenous plants that could be used in the subtropical summer rainfall areas was also a stumbling block
- ▶ Invasion of possible imported cover crops in the subtropical areas was also a point of discussion
- ▶ Various webinars and workshops in the last 2 years prompted to this initiative today



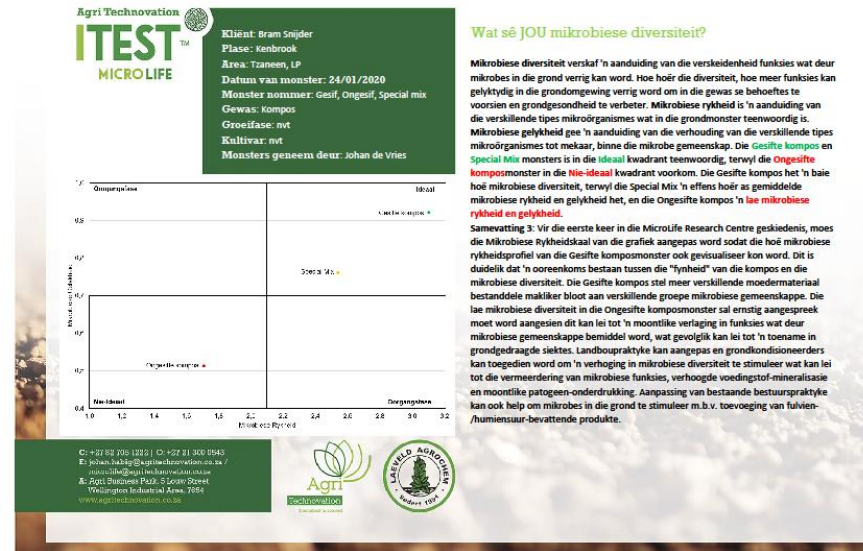
Lessons learnt

- ▶ Don't just copy and paste from other industries
- ▶ Determine what you want to achieve
 - ▶ - insect control,
 - ▶ - soil health
 - ▶ - soil cover
 - ▶ - biodiversity
- ▶ It is not a “what works for one, will work for the neighbour as well”



Lessons learnt

- ▶ How do you measure your progress
 - ▶ What tests can be done?
 - ▶ Scouting results and reduction on spraying
 - ▶ What are all our beneficials in our orchards that we should encourage
 - ▶ Tree health improvements



Kenmerk: 10001 | www.soilhealthlab.co.za
info@soilhealthlab.co.za | Tel: 021 675 5792

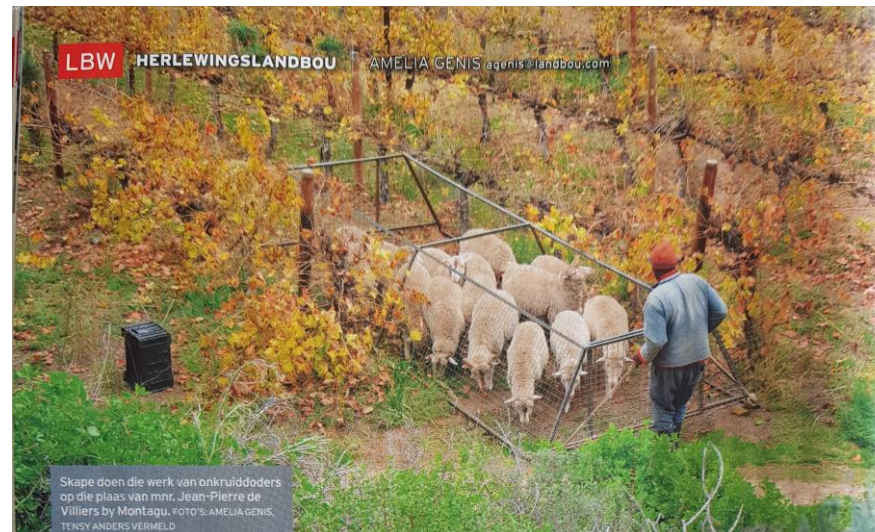


MICROBIAL ACTIVITY REPORT						
CLIENT INFORMATION			SAMPLE INFORMATION			
Contact person	Mr Bram Snijder		Sampled by	Mr B Snijder		
Farm Name	Broederstroomdrift		Date sampled	-		
Postal Address	P.O. Box 4257, Tzaneen, 0850		Date received	26-10-2020		
Tel	082 789 2922		Analysis date	28-10-2020		
Email	bram@lombardagro.co.za		Result date	29-10-2020		
Client Reference	Lab Number	Soil Respiration (ppm C)	Estimated Potential Mineralizable (kg/ha)	Microbial Biomass (kg/ha)	Volumetric Aggregate Stability (%)	pH (1:1 H2O)
BR12HS	SH253	24.4	36	1257	20	6.84

Notes:
The microbial biomass and microbial activity is below average which indicates a low potential for nutrient cycling and nitrogen production.
The low aggregate stability percentage indicates that the soil will not be able to resist erosion.
The soil pH is good.

Lessons learnt

- ▶ Improvement will start with baby steps at the time
 - ▶ Small increments from a low base will make a difference
- ▶ Animal factor should be included for best results
 - ▶ - how will we get around our overseas accreditation?



What is our journey?

- To establish a foothold in the subtropical industry with regard to a sustainable industry through an integrated approach of regeneration, biological farming and conventional methods



Where are we now?

- ▶ At the beginning of a new era, without a proper roadmap
- ▶ Lot of information is being disseminated in different agricultural sectors and climatic areas
- ▶ Cover crops are being investigated for subtropical regions



This Photo by Unknown Author is licensed under [CC BY-SA](#)

Where are we now?

- ▶ Research is being conducted on influence of cover crops on insect dynamics in various crops
- ▶ Biological products are coming onto the market for integrated approaches
- ▶ We will hear about some success stories in 3 different tree crop industries



This Photo by Unknown Author is licensed under [CC BY-SA](#)

What holds the future

- ▶ This will be determined by everyone present
 - ▶ Mind shift needs to take place
 - ▶ Remember this is a journey not an end station
- ▶ Research results
 - ▶ Current and future research
 - ▶ Indigenous cover crop research?
- ▶ Farmer visits and grower's on farm experiences

