

HORTGRO

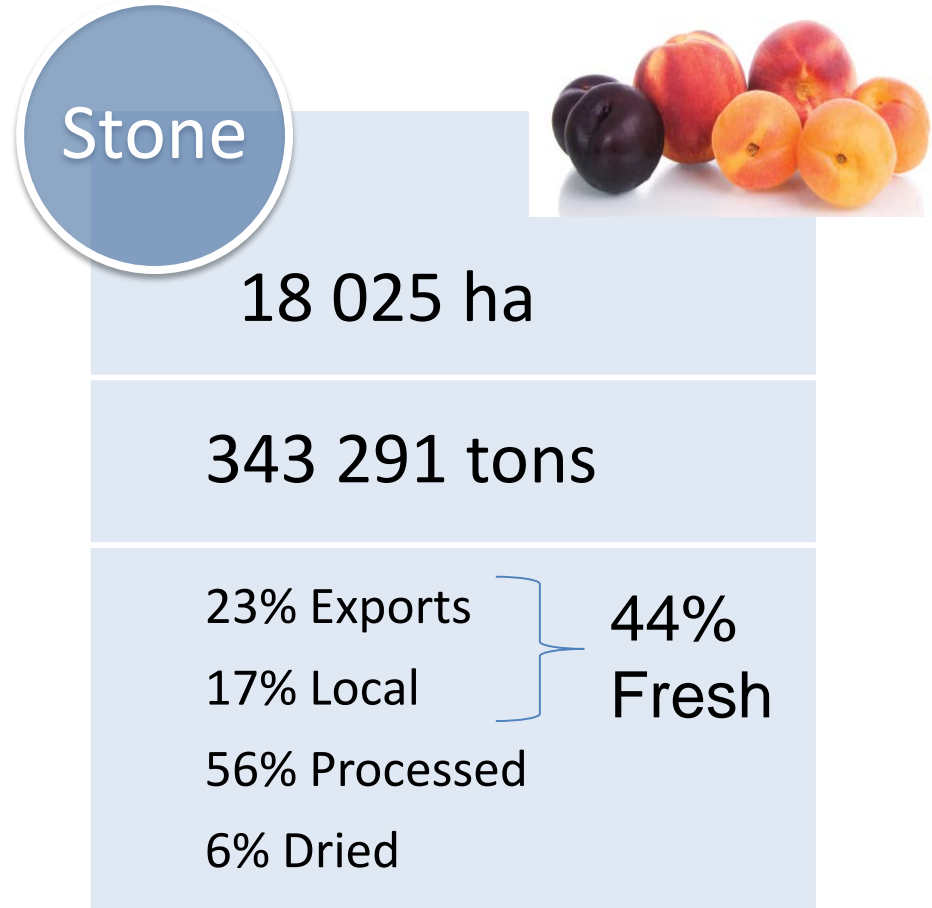
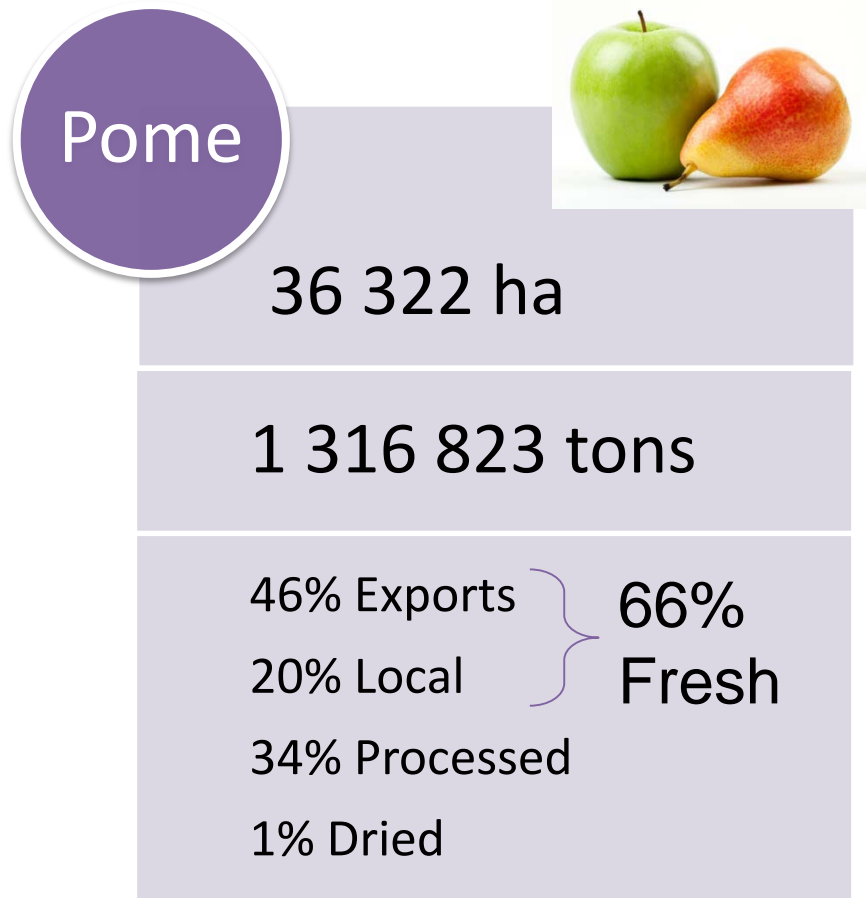
Growing Fruit IQ



INNOVATIEMISSIE AGRIFOOD: ZUID AFRIKA (INFOWEBINAR)

27 May 2020
Wiehann Steyn
Hortgro R&D Manager

Industry perspective



 **1 542 producers**

R11,1 Billion

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Growing Fruit IQ



Industry Functions

■ Production (Supply side)

- Research & Development
- Technology Transfer
- Technical Services
- Plant Improvement
- Certification

■ Market (Demand side)

- Info & Stats
- Logistics & Infrastructure
- Trade & Market Access
- Market Development
- Market & Consumer Research
- Standards & Protocols



■ Other “cross cutting”

- Transformation (Land Reform/Economic Development/BEE/Training & Skills development, etc)
- Communication, Image, Representation
- Admin & Financial services

• Commercial/User Pay Industry Services

- Fruitfly Africa /Culdevco (cultivar dev)

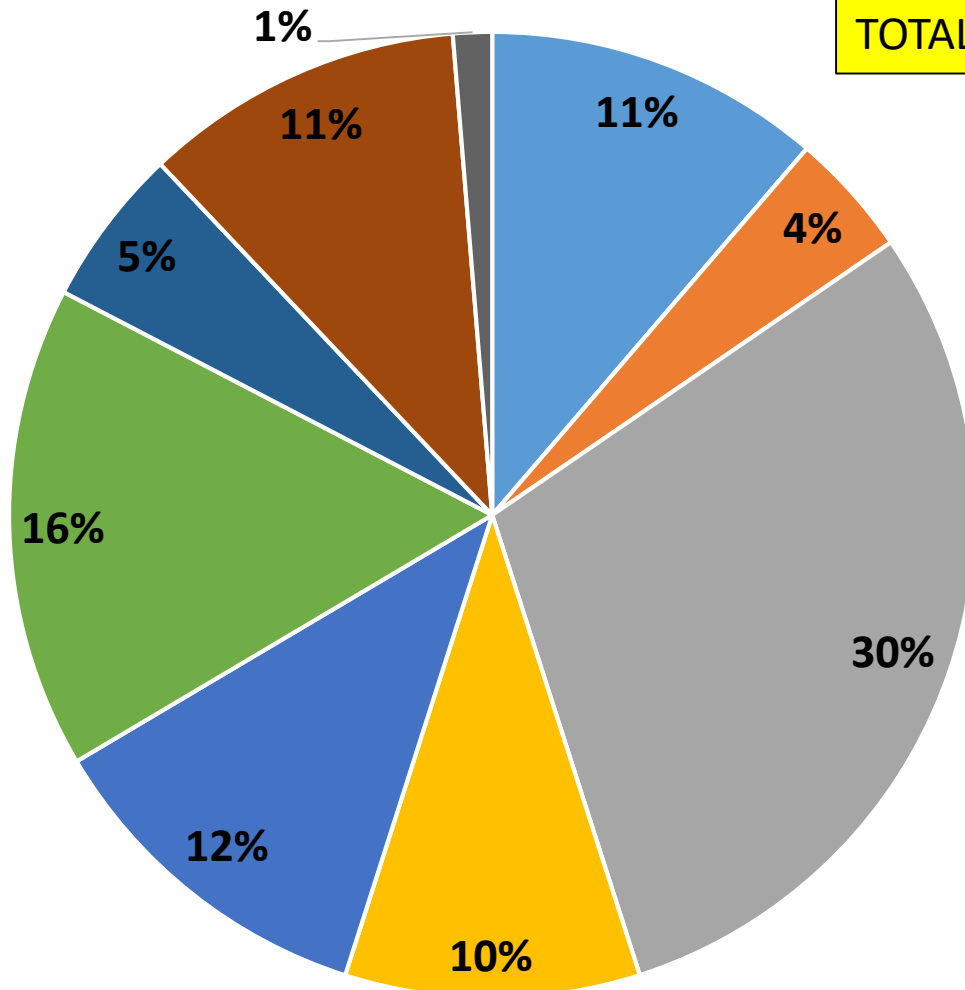
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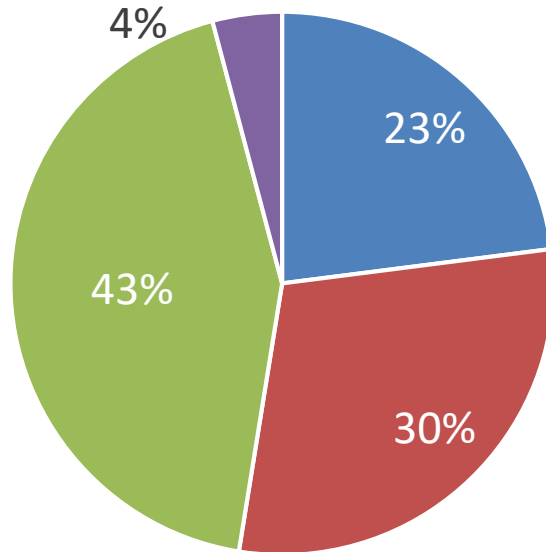
R&D funding allocation 18/19

Pome R 22,1mill
Stone R 8,2mill
TOTAL R30,2mill

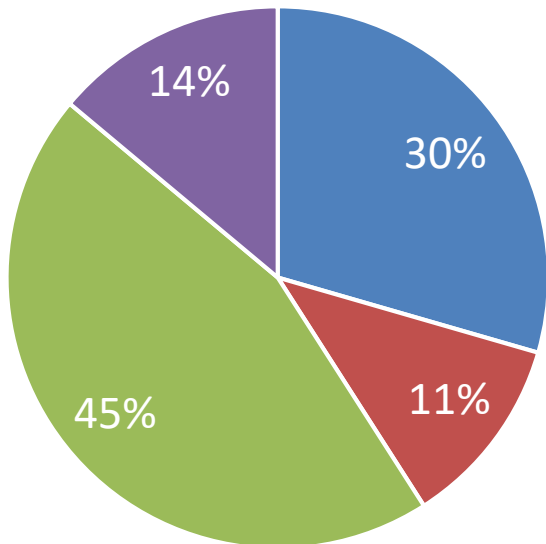


- ARC Breeding
- ARC Project
- Stellenbosch University
- ExperiCo
- Other research institutes
- Research Posts
- Tech Transfer
- Prog / project man / Tech services
- International congress etc

R&D investment / focus area 18/19



Pome fruit



Stone fruit

- Crop Protection
- Crop Production
- Post-Harvest
- Market Access

WHY DO RESEARCH?

Addressing present & future challenges by:

- Providing a constant stream of well-trained **people**.
- Developing **technology**.
- Creating **knowledge**

WHAT IS OUR RESEARCH STRATEGY?

Driven by the needs of the:

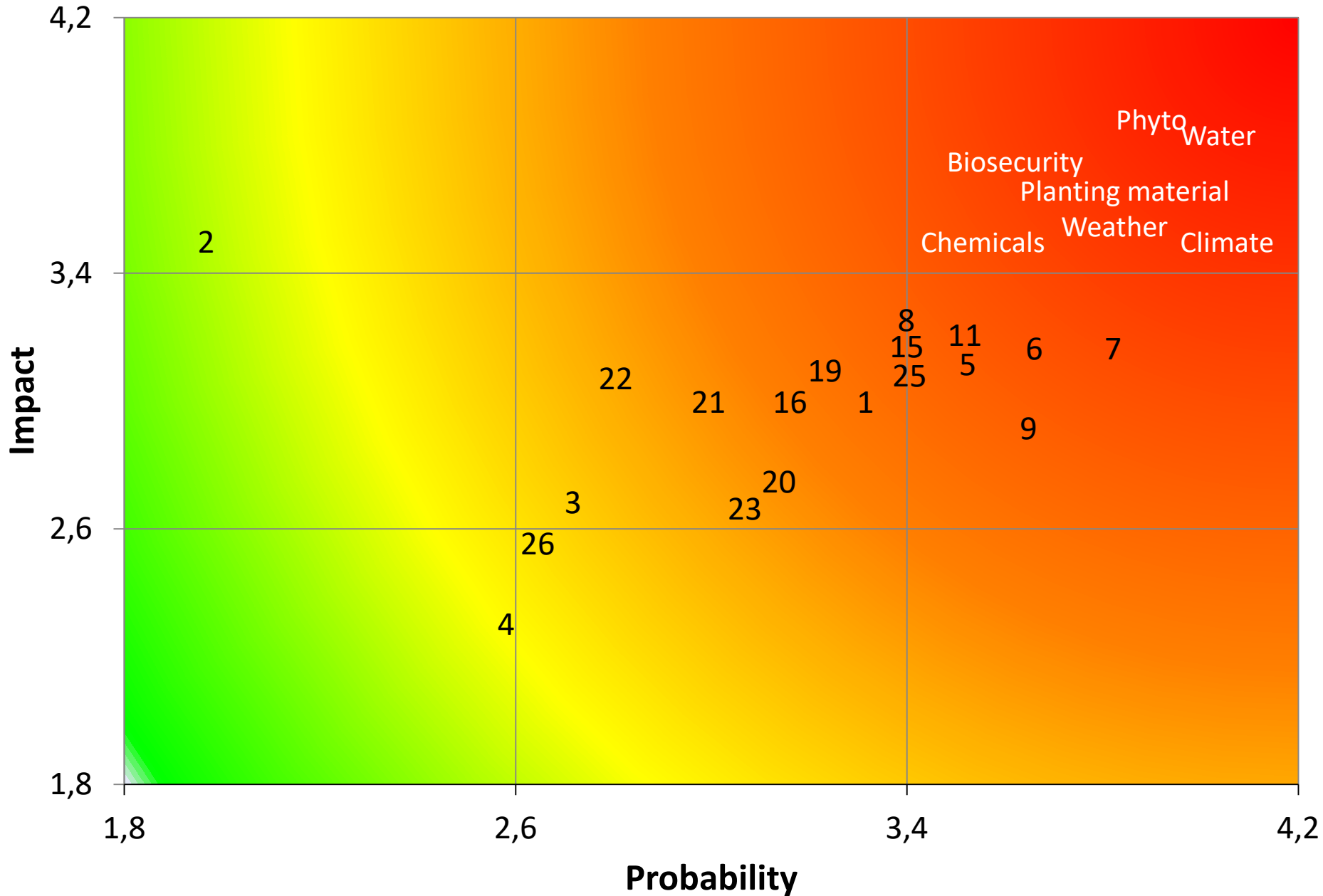
- Nursery
- Orchard
- Packhouse
- Exporter
- Customer

of the Future.

Informed by future risks.



Hortgro Science Risk Heat Map_Aug 2019



Crop Production Research Priorities

Priorities	Comment
Increasing fruit quality	Basic driver
Increasing production efficiency	Basic driver
Water research	High risk
Climate-related research	High risk
Plant material quality research	High risk

Water-related research

- **Water use** of **apples/plums/pears/peach** etc.
- **Water saving** under fixed/draped nets.
- **Tolerance of rootstocks** to drought and salinity stress and effect on fruit storability.
- Effect of **over irrigation** on postharvest fruit quality and tree physiology.
- *Mapping water productivity.*
- *Drip vs. micro irrigation*

Key researchers:

Prof Stephanie Midgley – Stephanie.Midgley@gmail.com

Dr Sebinazi Dzikiti - SDzikiti@csir.co.za

Climate-related research

- **Climate change strategy.**
- **Modelling** of climate change impacts.
- Effect of climate on **postharvest quality and defects.**
- Effect of insufficient winter chill on **fruit quality.**
- **Adaptability** indexing of new cultivars.
- **Improved models** for bud break performance.

Key researchers:

Prof Stephanie Midgley – Stephanie.Midgley@gmail.com

Dr Esmé Louw- esmelouw@sun.ac.za

Crop Protection Research Priorities

Priorities	Comment
Market Access	Basic driver
Sustainability – Decreased reliance on chemicals	Basic driver
Phytopathological pests and diseases	High risk
Invasive pests and diseases	High risk
Loosing key chemicals	High risk

Phytopsanitary pests and diseases

Matthew Addison – mfa@sun.ac.za

- **EPN's and EPF's** for control of various pests.
- Integration of GIS and spatial analysis with monitoring data of major pests for **area-wide management**.
- Parasitic wasps for **biological control** of fruit flies.
- **Cold treatment** for disinfecting fruit-fly-infested stone fruit.
- Commercialize **ethyl formate fumigation** for control of key phytopsanitary pests.

Key researchers:

Prof Antoinette Malan – apm@sun.ac.za

Prof Pia Addison - pia@sun.ac.za

Invasive pests and diseases

- Assessing the threat of **PSHB**.
- Biology/control of **invasive fruit fly** – *B. dorsalis*
- *Potential pest and disease hit list.*

Key researchers:

Prof Pia Addison - pia@sun.ac.za

Other Notable Crop Protection Themes

Soil Health – Matthew Addison (mfa@sun.ac.za)

Pre-harvest Pathology – Prof Adele McLeod (adelem@sun.ac.za)

- Prof Lizel Mostert (lmost@sun.ac.za)

- Resistance of rootstocks against various fungi.
- Replant disease
- Nursery tree health

Postharvest Pathology – Dr Cheryl Lennox (clennox@sun.ac.za)

- Fungicide resistance
- Sanitizer options
- Antimicrobial lipopeptides

Organic production