

# The Size and Shape of Agricultural Skills Delivery

**Citrus Growers' Association Citrus Summit**

14 March 2019

Prof Steven Worth

University of KwaZulu-Natal

worths@ukzn.ac.za

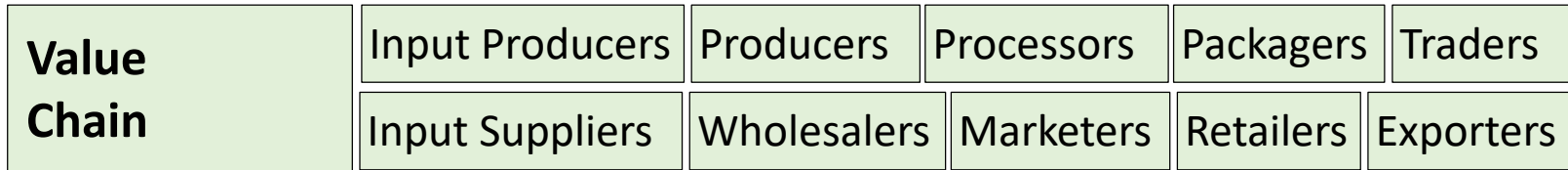
# Key factors to consider

- Workplace requirements
- Post-School Education and Training
- Education-linked Research

# Workplace requirements

Occupational Landscape	Value Chain	Input Producers	Producers	Processors	Packagers	Traders
		Input Suppliers	Wholesalers	Marketers	Retailers	Exporters
	Support Services	Extension & Advisory Services		Transport Services		ICT Services
		Logistical Services	Mechanical Services		Financial Services	
		Admin Services	Accounting Services		Agric Engineering	
		Laboratory Services	Agric Econ Services		Hi-Tech Services	
	Organisational Services	Commodity Organisations		Producer Organisations		
		Consumer Organisations		Business Chambers		

# Workplace requirements



## Specialised education and training

Producers

**Input Producers**

**Processors**

**Packagers**

# Workplace requirements

<b>Support Services</b>	Extension & Advisory Services	Transport Services	ICT Services
	Logistical Services	Mechanical Services	Financial Services
	Admin Services	Accounting Services	Agric Engineering
	Laboratory Services	Agric Econ Services	Hi-Tech Services

## Specialised education and training

Laboratory Services

Agric Econ Services

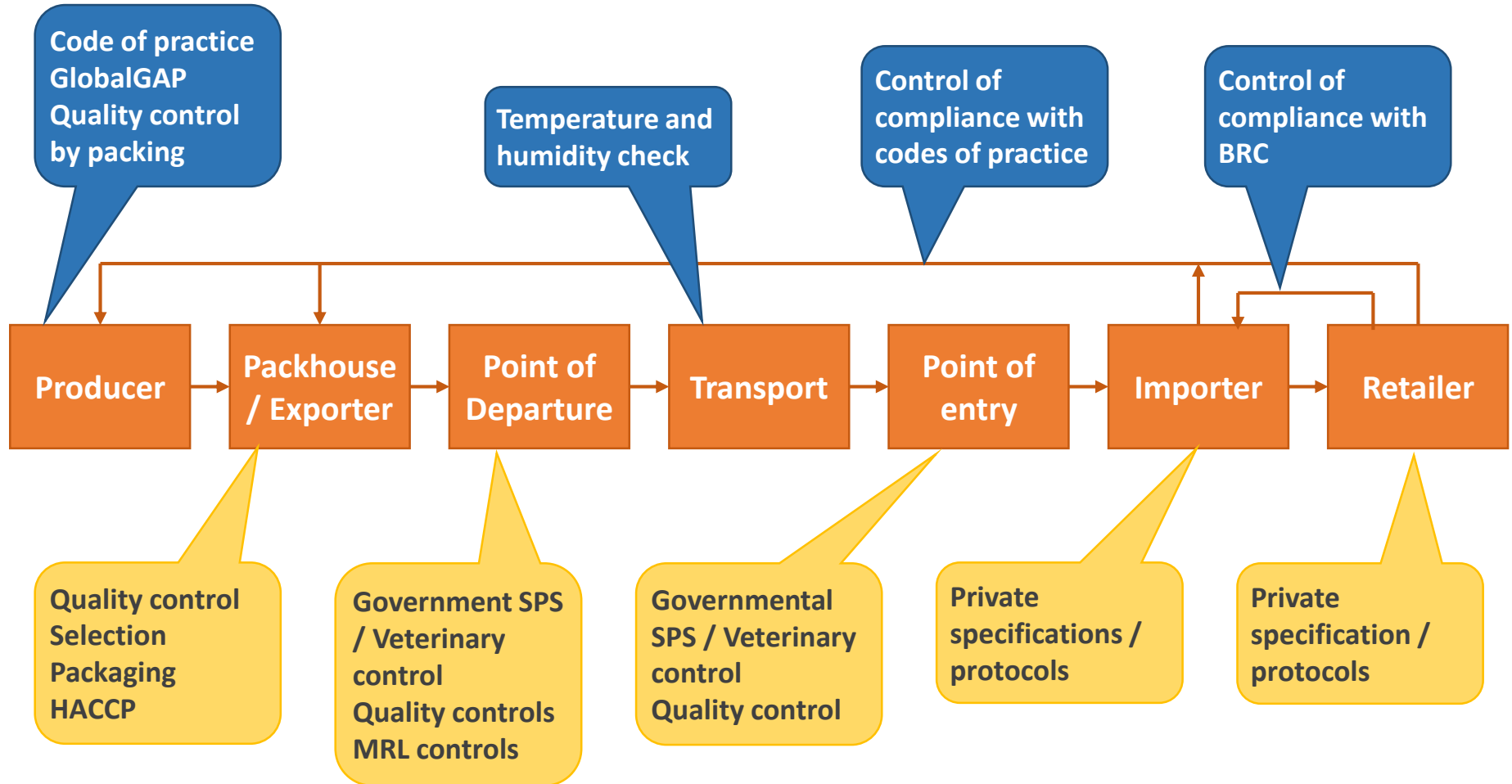
Hi-Tech Services

Extension & Advisory Services

# Workplace requirements

Safety & Quality Control

Fruit and Veg Supply Chain



# Workplace requirements – emerging jobs



# Post-School Education and Training: Policy Framework

## **Present education and training policy framework**

- Education and training in South Africa very clearly and carefully structured.
- Post-School Education and Training (PSET) organised around the National Qualifications Framework (NQF)



# Post-School Education and Training: Policy Framework

## NQF:

- Comprehensive system for the classification, registration and publication of articulated and quality-assured qualifications.
- Single integrated system comprising 10 levels and three sub-frameworks:
  - General and Further Education and Training Sub-Framework (GFETQSF)
  - The Higher Education Qualifications Sub-Framework (HEQSF)
  - The Occupational Qualifications Sub-Framework (OQSF)

# Post-School Education and Training: Policy Framework

## Roleplayers in PSET

- Regulatory bodies responsible for qualifications and quality assurance
- Sector Education and Training Authorities (SETAs)
- National Skills Levy and the National Skills Fund (NSF)
- Public TVET colleges (formerly known as FET colleges)
- Private VET providers
- Community colleges (formerly public adult learning centres)
- Public and private universities

# Post-School Education and Training: Policy Framework

## **Regulatory Bodies**

- SAQA: South African Qualifications Authority
- Umalusi: Council for Quality Assurance in General and Further Education and Training
- QCTO: Quality Council for Trades and Occupations
- CHE: Council on Higher Education

# Post-School Education and Training: Policy Framework

## **SAQA**

Oversees implement and development of the NQF.

- Sets standards for the NQF and to
- Provides quality assurance for the NQF.
- Prepares policy frameworks to guide the Qualification Councils

# Post-School Education and Training: Policy Framework

**Umalusi:** Matriculation qualifications; Adult education and training qualifications; and Vocational qualifications (National Technical Certificate (N3); National Certificate: Vocational (NCV).

- Maintains norms and standards in the GFETQSF.
- Develops and manages qualifications for GFET
- Provides quality assurance of exit point assessment of GFETQSF qualifications,
- Certify learner achievements;
- Provides quality assurance of independent schools; and
- Accredits private assessment bodies.

# Post-School Education and Training: Policy Framework

## **QCTO**

### **Responsible for the OQSF**

- Facilitates workplace-based education of post-school learners;
- Provides occupational qualifications that can be credibly benchmarked against similar international occupational qualifications
- Facilitates the articulation between occupational qualifications to qualifications in the other qualifications frameworks.

# Post-School Education and Training: Policy Framework

## **CHE**

- Establish and manage the quality assurance system for higher education.
- Responsible for the HEQSF. (All higher education institutions fall within the sphere of CHE.)
- Reviews and accredits all higher education qualifications – e.g. diplomas and degrees (before they can be offered)

# PSET Institutions with Horticultural Curricula

	Dip	Adv Dip	PGDip	BTech	BSc	BSc Hons	BSc Agric	MTech	MSc	MSc Agric	Masters	PhD
CPUT	1	1						1			1	1
DUT	1											
Limpopo							1			1		1
Mpumalanga	1						1					
MUT	1											
Pretoria					1		1			1	1	1
Stellenbosch							1		1			1
TUT	1	1	1	1		1			1			1
UKZN					1	1	1			1		1
UNISA	1	1	1						1			
VENDA							1		1	1		1
<b>Totals</b>	<b>6</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>7</b>



# PSET Institutions with Horticultural Curricula

## **Cape Peninsula**

Diploma in Agriculture [Mentions fruit production]

Diploma in Horticulture [SAQA]

Advanced Diploma in Horticulture [SAQA]

Master of Horticultural Science [SAQA]

Master of Technology: Horticulture [SAQA]

PhD in Horticulture

# PSET Institutions with Horticultural Curricula

## **DUT:**

Diploma in Sustainable Horticulture and Landscaping [SAQA]

# PSET Institutions with Horticultural Curricula

## **KwaZulu-Natal**

BSc (Crop & Horticultural Science)

BScHonours (Horticultural Science)

BScAgric (AgriBusiness: Horticulture)

BScAgric (Plant Sciences: Horticulture)

MScAgric (Horticultural Science)

PhD (Horticultural Science)

# PSET Institutions with Horticultural Curricula

## **Limpopo:**

BScAgric (Horticulture)

MScAgric (Horticulture)

PhD (Horticulture)

# PSET Institutions with Horticultural Curricula

## **Mpumalanga**

Diploma in Agriculture (Plant Production) (24cr of 360: fruit production)

BScAgric (1 module in fruit production)

# PSET Institutions with Horticultural Curricula

## **MUT:**

National Diploma: Horticulture [SAQA]

# PSET Institutions with Horticultural Curricula

## **Pretoria**

BSc (Plant Science)

BScAgric (Applied Plant and Soil Sciences: Horticultural Science)

Bachelor of Science: Agriculture: Horticulture

Bachelor of Institutional Agriculture Honours: Horticulture

Master of Institutional Agriculture: Horticulture [SAQA]

MScAgric (Horticulture)

PhD (Horticulture)

# PSET Institutions with Horticultural Curricula

## **Stellenbosch**

BScAgric (Horticulture)

BScHons in Applied Plant Physiology

MScAgric (Horticulture)

PhD (Horticulture)



# PSET Institutions with Horticultural Curricula

## Tshwane

Diploma in Agriculture (Plant Production) [2 modules on fruit]  
(Ends 2022)

Diploma in Agriculture (Mixed Farming) [3 modules on fruit]

Diploma in Horticulture [SAQA]

Advanced Diploma in Horticulture [SAQA]

Postgraduate Diploma in Horticulture

BTech (Crop Production) [1 module on fruit] (Ends 2021)

BScHons in Applied Plant Physiology

MScAgric (Horticulture)

PhD (Horticulture)

# PSET Institutions with Horticultural Curricula

## **UNISA:**

Diploma in Ornamental Horticulture [SAQA]

Advanced Diploma in Sustainable Horticulture and Landscaping  
[SAQA]

Postgraduate Diploma in Ornamental and Landscape Horticulture  
[SAQA]

Master of Science: Ornamental Horticulture [SAQA]

# PSET Institutions with Horticultural Curricula

## **Venda:**

Bachelor of Science in Agriculture in Horticultural Sciences

Master of Science in Horticultural Sciences

Master of Science: Agriculture: Horticultural Sciences

Doctor of Agriculture in Horticultural Sciences

Doctor of Philosophy: Agriculture: Horticultural Sciences

# PSET Institutions with Horticultural Curricula

**Agricultural Colleges: 11**


Diploma in Agriculture

SAQA listed  
horticulture  
qualifications

<b>Name of Qualification</b>	<b>NQF level</b>
General Education and Training Certificate: Horticulture	1
National Certificate: N1 Horticulture	1
National Certificate: Horticulture	2
National Certificate: Landscape Irrigation	2
National Certificate: N2 Horticulture	2
Occupational Certificate: Garden Worker	2
National Certificate: Arboriculture: Tree Preservation	3
National Certificate: Landscape Irrigation	3
National Certificate: Landscaping	3
National Certificate: N3: Horticulture	3
Occupational Certificate: Landscape Gardener (Landscaping Supervisor)	3
Occupational Certificate: Nursery Person (Garden Centre Supervisor)	3
Occupational Certificate: Nurseryperson (Nursery Supervisor)	3

SAQA listed  
horticulture  
qualifications

<b>Name of Qualification</b>	<b>NQF Level</b>
Diploma in Horticulture	6
Diploma in Horticulture	6
Diploma in Sustainable Horticulture and Landscaping	6
Diploma: Ornamental Horticulture	6
National Diploma: Horticulture	6
National Diploma: Horticulture	6
National Diploma: Horticulture	6
National Diploma: Horticulture	6
Advanced Diploma in Horticulture	7
Advanced Diploma in Horticulture	7
Advanced Diploma in Ornamental and Landscape Horticulture	7
Bachelor of Science in Crop and Horticultural Science	7



SAQA listed  
horticulture  
qualifications

<b>Name of Qualification</b>	<b>NQF level</b>
Bachelor of Institutional Agriculture Honours: Horticulture	8
Bachelor of Science Honours: Agriculture: Grassland Science	8
Bachelor of Science Honours: Agriculture: Plant Breeding	8
Bachelor of Science Honours: Agriculture: Plant Pathology	8
Bachelor of Science in Agriculture in Horticultural Sciences	8
Bachelor of Science in Agriculture in Plant Pathology	8
Bachelor of Science: Agriculture: Horticulture	8
Bachelor of Science: Agriculture: Plant Breeding	8
Postgraduate Diploma in Horticulture	8
Postgraduate Diploma in Ornamental and Landscape Horticulture	8
Master of Horticultural Science	9
Master of Institutional Agriculture: Horticulture	9
Master of Science in Horticultural Sciences	9
Master of Science: Agriculture: Grassland Science	9
Master of Science: Agriculture: Horticultural Sciences	9
Master of Science: Agriculture: Plant Breeding	9
Master of Science: Agriculture: Plant Pathology	9
Master of Science: Ornamental Horticulture	9
Master of Technology: Horticulture	9
Master of Technology: Horticulture	9



SAQA listed  
horticulture  
qualifications

<b>Name of Qualification</b>	<b>NQF level</b>
Doctor of Agriculture in Horticultural Sciences	10
Doctor of Horticultural Science	10
Doctor of Philosophy in Horticulture	10
Doctor of Philosophy: Agriculture: Horticultural Sciences	10
Doctor of Philosophy: Plant Breeding	10
Doctor of Philosophy: Plant Pathology	10
Doctor of Technology: Horticulture	10
Doctor Philosophy: Horticulture	10



# Remember: Workplace requirements

Occupational Landscape	Value Chain	Input Producers	Producers	Processors	Packagers	Traders
		Input Suppliers	Wholesalers	Marketers	Retailers	Exporters
	Support Services	Extension & Advisory Services		Transport Services		ICT Services
		Logistical Services	Mechanical Services		Financial Services	
		Admin Services	Accounting Services		Agric Engineering	
		Laboratory Services	Agric Econ Services		Hi-Tech Services	
	Organisational Services	Commodity Organisations		Producer Organisations		
		Consumer Organisations		Business Chambers		

# Primary Challenges

- No accredited qualifications specifically for citrus
- Very few accredited qualifications with specified citrus in curricula; most have 'fruit'
- Most accredited qualifications focus on primary production or related activities
- No accredited qualifications on value-adding for citrus or even fruit specific
- Extension: will not have covered fruit/citrus production
- Production: will not have covered farm business management (especially the B Sc and B Sc Agric)