Postharvest treatment

Enabling Quality Controlled Logistics

Eelke Westra, Feb 6th

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Transform to a new fresh food system

Current situation: **“One size fits all”**

Commodities with equal size, taste and shelf life.

Potential of products is not optimally used

Transform to a new fresh food system

We aim to perfectly match quality of fresh produce to consumer demands and preferences in a sustainable way

Who am I

Eelke Westra

Programm Manager Postharvest Quality @

Wageningen UR

Postharvest Scientist, 17 years experience in the field of fruit, vegetables and cut-flowers

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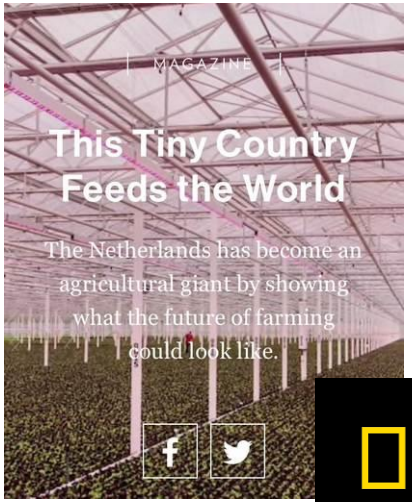

www.nationalgeographic.com/magazine/2017/09/holland-agriculture-sustainable-farming/

- Global # 1 in AgroFood
- "A university for the world, and not simply for the Dutch"
- 45% of graduate students from abroad, representing > 100 nations
- University AND Contract Research Organisation

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80+ Years of Postharvest Research: #1 Worldwide

1936

Foundation IBVT
by prof. A.M. Sprenger

1966

Renamed Sprenger Institute

1990

Renamed ATO-DLO

2017

WFBR – Renewed facilities (PHENOMEA)

DCS™

QUEST™

Sea freight
Cut-flowers

Utilisation of postharvest data — **Big data & AI**

Application of postharvest sensors — **Sensing technology**

Development postharvest physiology — **Ethylene and CA technology**

Packaging technology — *Development postharvest handling*

Cooling technology — *Development basic postharvest systems*

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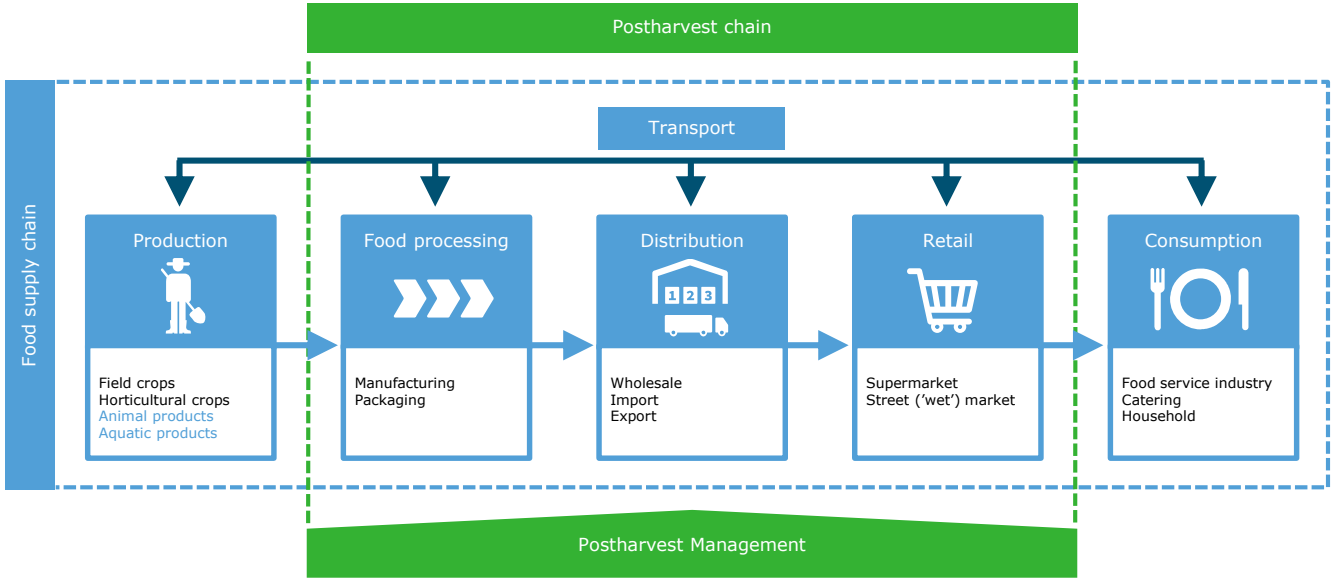
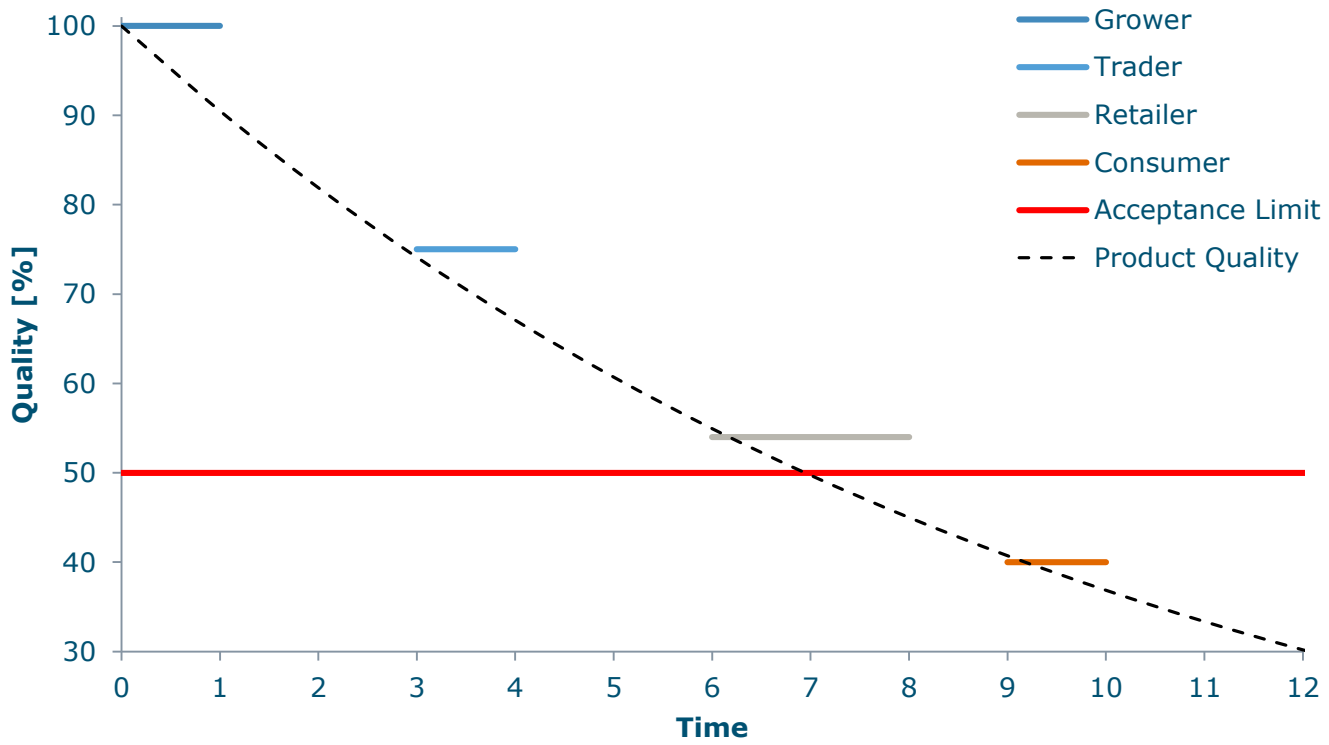
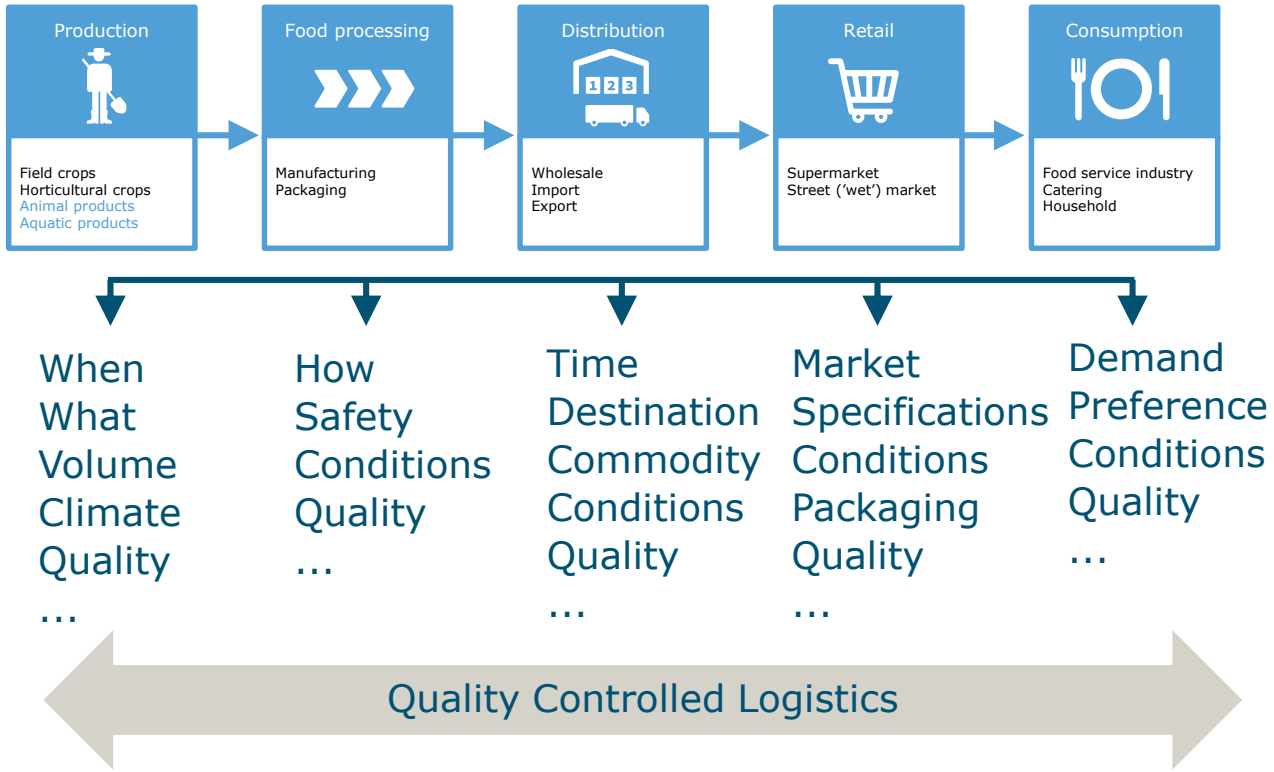
Postharvest in Supply Chains



Quality in a supply chain



Control points in the Supply Chain



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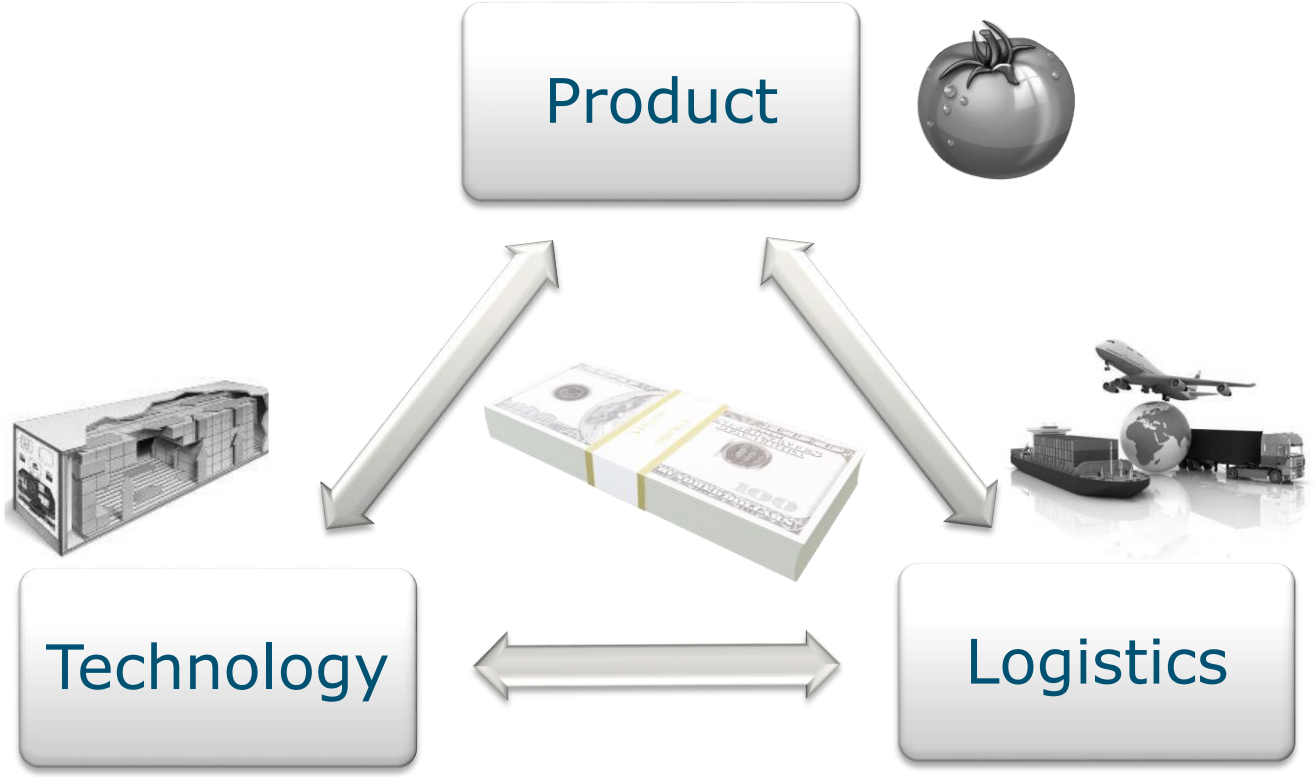
Quality controlled Logistics

- What are the **key quality attributes**
  - From a consumers perspective!
- How to **measure** this in a supply chain
  - Starting in the orchard
- How to create **optimal conditions to preserve** quality

Post harvest treatments



Objective Quality Measurements

Objective phenotyping (Sensors):

- ✓ Consistent standardized methods
- ✓ Repeatable, at different locations
- ✓ Non-destructive
- ✓ Ability to follow and compare over time
- ✓ Quantification of subtle differences
- ✓ Early detection of invisible differences

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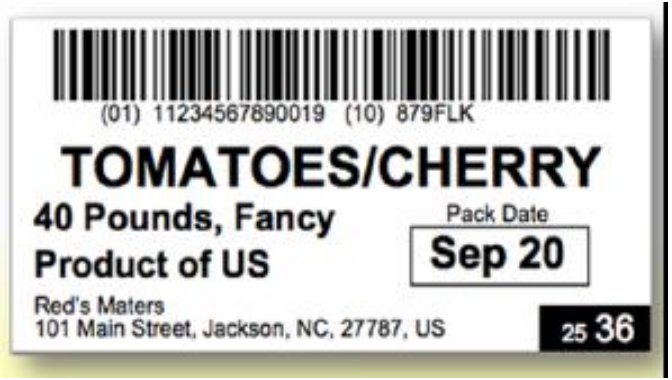
Chain conditions

	Temperature			
Distribution [days]	8°C	10°C	12°C	18°C
9	++	++	+	---
11	++	+	+	---
14	+	+	--- / +	---
17	+	--- / +	---	---
19	--- / +	--- / +	---	---

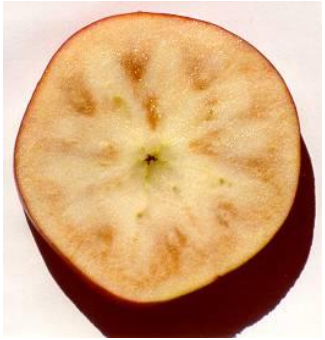
Tomato example

Packaging – multiple functions



Disorders (some examples)

Shrivelling



Chilling injury

Fungal growth (*Botrytis*)

Skin spots

CO_2 Injury

Pink discolouration

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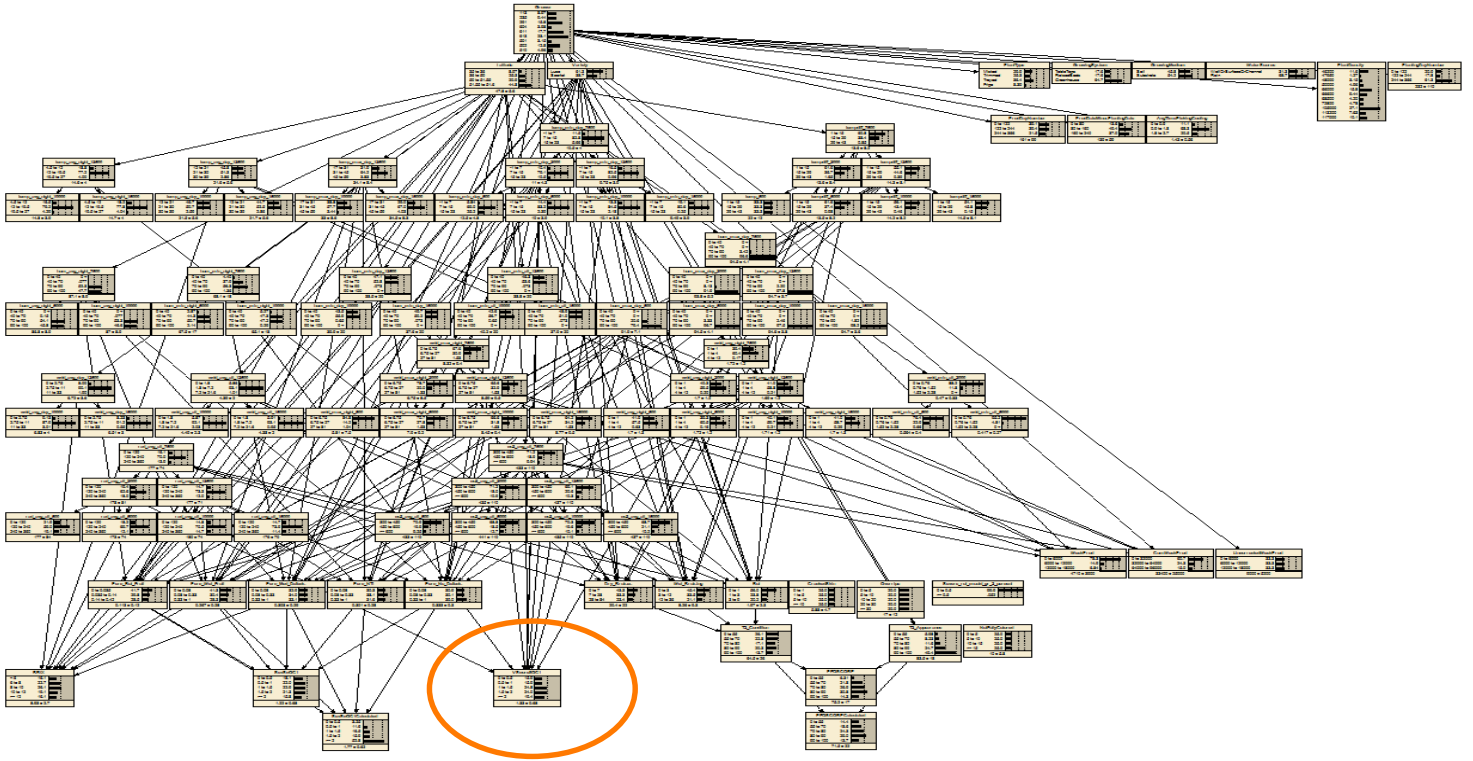
Decission making



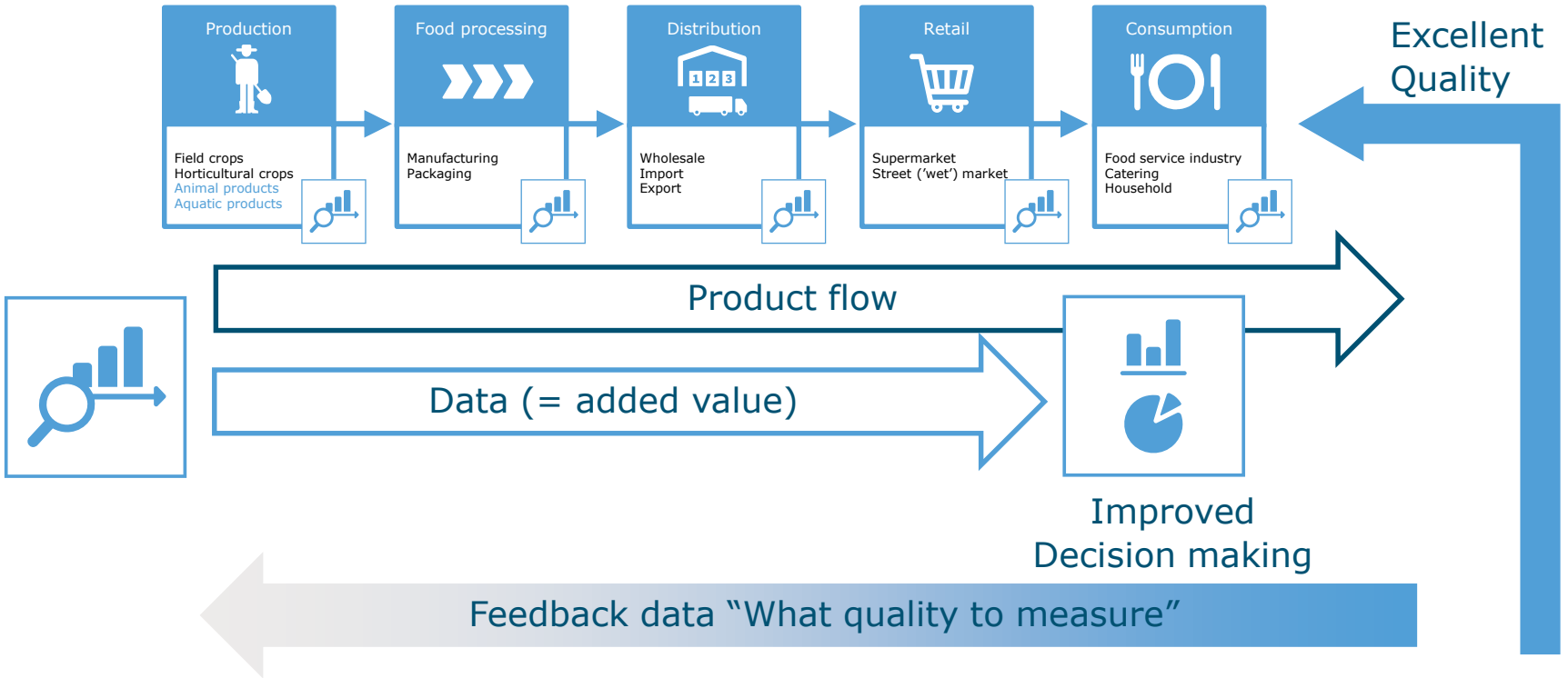
What do you really want to control?

OR

Tasty delicious products

Prevention of disorders

Future outlook: Quality controlled logistics



Finding answers together

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