

Inner quality concept & carrots

G.J.H.M. van der Burgt, M.Sc.

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What's new?

1. Inner Quality for sure is new for the non-organic community
2. One concept covering production (farm practice), product (properties) and consumption (potential health effects)
3. Parameters to be measured

“Was man für sich selber tun will, das kann man ruhig mit dem Gefühl erarbeiten. Will man aber etwas nach aussen hin darstellen, dann soll man es absolut in berechenbare Zahlen und Tabellen bringen.”

R. Steiner, Landwirtschaftlicher Kurs, 1924

Parameters for carrot quality

and the development of the Inner Quality Concept

M. Northolt, G.J. van der Burgt, T. Buisman, A. Vanden Bogaerde, Louis Bolk Instituut, 2004

FQH 04

1: Growth

2: Differentiation

1+2: Integration

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Variables in the experiment:

Growth – differ. - integr

▶ Nutrients (nitrogen) :	↑	↓	(↓)
▶ Light	↑	↑	↑
▶ Ripening	(↓)	↑	

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Parameter groups in the experiment:

Growth – differ. - integr

- ▶ Morphology
- ▶ Chemical content
- ▶ Experimental parameters
- ▶ Sensoric properties
- ▶ Pests and diseases
- ▶ Storage

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1: Growth

- ▶ d Leaf weight
- ▶ d Root weight
- ▶ d Leaf length
- ▶ d Root length
- ▶ Monosaccharides
- ▶ Nitrate

2: Differentiation

- ▶ Fine leaves (to be quantified?)
- ▶ Root shape
- ▶ **Dry matter % root**
- ▶ Pure/crude protein ratio
- ▶ Mono / disacch. ratio
- ▶ **Sensoric: sweetness**
- ▶ **Typical carrot taste**

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FQH
Organic Food Quality & Health

3: Integration

- ▶ Pests and diseases
- ▶ Storage test / shelf life
- ▶ **Total sensoric appreciation**
- ▶ Experimental parameters

Experimental parameters

- ▶ Electro-chemical parameters (differentiation)
- ▶ Luminescence (gr – diff – integr)
- ▶ Copper chloride crystallisations (gr – diff – integr)

Carrot and Inner Quality concept

- ▶ Can the inner quality of the product – the carrot – be evaluated by measurements? Yes, to be completed.
- ▶ Can the realized inner quality be related to field circumstances – farm management? Yes.
- ▶ Can the inner quality of the product be linked to food quality? Nitrate: yes. Taste: yes. Inner food quality (are we fed by ‘coherence?’): not yet.

Thank you for your attention

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