

CHALLENGES AND PERSPECTIVES IN NEAR FUTURE FOR FINNISH HORTICULTURE

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Horticulture

VISION CONFERENCE OF ESTONIAN HORTICULTURAL ASSOCIATION –
VOL 4

ESTONIA AS A TOP-PLAYER IN EU HORTICULTURE – HOW TO ACHIEVE
THIS TARGET?

FINNISH EXPERIENCE

2.11.2017, TALLINN, ESTONIA



Development and state of Finnish horticulture

- Enterprices have changed: decrease in number, increase in size
- Level of total production ~unchanged
- Artificial lighting: year-round production
- Increase in greenhouse production of lettuce and herbs

- Share of domestic products high in several categories (berries, vegetables, seasonal bulb and bedding flowers)
- Increased demand of vegetables, fruit and berries
- Fruit and berry season elongated



Development and state in Finnish horticulture

- High value of landscaping business
- Sale of gardening material still increasing



- High import of fruit
- Nursery plant production decreased
- Cut and pot flower production almost ceased
- Market disturbances (greenhouse vegetables, berries)
- Storage loss (vegetables)

Challenges in Finnish Horticulture

- **Low competitiveness**
 - ✓ climate
 - ✓ labour costs
 - ✓ small market area
 - ✓ low population density
 - ✓ transportation costs
- **Tradition of low investments in horticulture, due to small farm size, low profitability**

- **Marketing**
 - ✓ strong food trade chains
 - ✓ undeveloped marketing chains and cold chains
 - ✓ knowledge
- **Undeveloped networking, cooperation, sharing**
- **Attitude towards horticultural products: readiness-to-pay**

Challenges in developing Finnish Horticulture

- Partly traditional, non-innovative culture
- Consulting services decreased
- Research resources decreased
- Structure of subsidies
- Hard physical work
- Low profitability
- Transfer to the next generation uncertain



Do we need a change?



Drivers to change



Drivers to change

Digitalization

Global food supply

Ecosystem services

Recycling

Up-
grading

Food
safety

Waste
reductions

Urbanization

Traceability

Sustainability

Global
marketing

Responsibility

Carbon
footprint

Immigration



Several clearly positive drivers to change

- Thinking Green
- Green Environment
- Sustainable way of living and doing things
- Environmental effects of production
- Health-food trends
- Home gardening

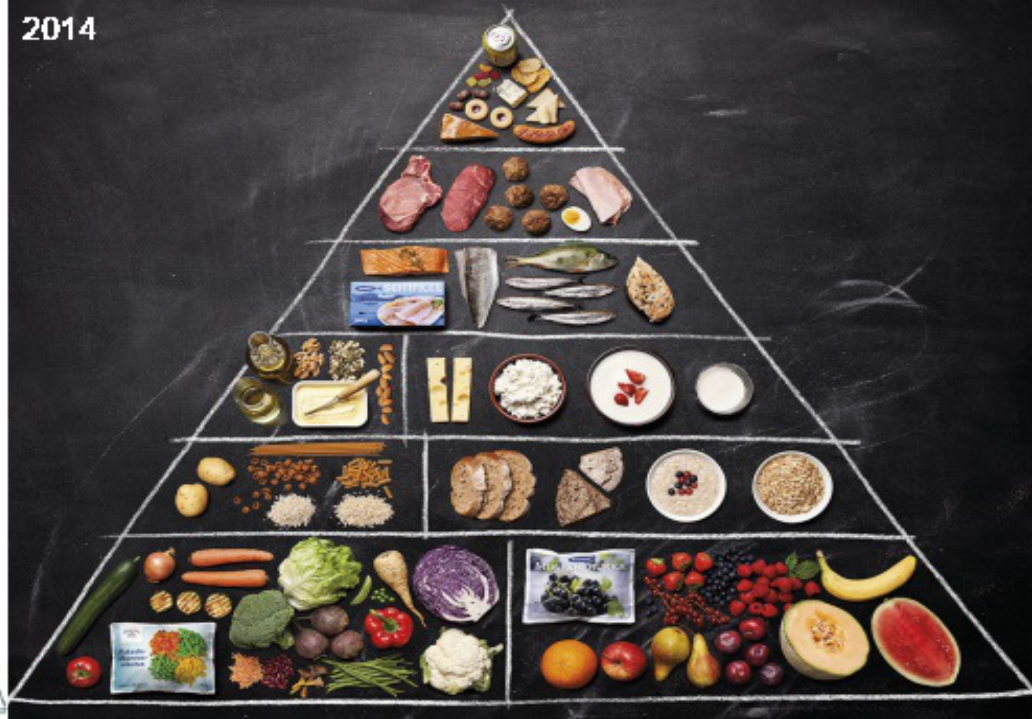


Food recommendations are based on horticultural products

1998



2014





Several clearly positive drivers to change

Taking benefit of Food trends!

- Vegetarian
- Local (regional, small producer, short market chain?)
- Organic
- Easy and fast to buy & prepare
- Product and variety diversity
- Quality: food safe, freshness, taste

Ornamental demand

- Quality
- Climatic adaptation
- Pest/disease-free
- True-to-type

To take advantage of these drivers in production plans and marketing

Societal development affecting Finnish Horticulture

- Demography; aging of populations
- Trends, fashions
- Development of recycling solutions: fertilizers, growing substrates, water
- Crowd-financing



Societal development affecting horticulture: Urbanization



- Landscaping: cities, roads, waste areas
- Green walls, roofs (building technology)
- Rain (storm) water control
- Urban societal horticulture
- Welfare
- Green care
- Gardening products
- Theme parks (therapy, adventures, relaxing, dating...)
- Urban planning

Technical development to boost horticulture

- Production efficiency (cost level)
- Labour availability, cost
- Energy efficiency in greenhouse production (warming, cooling, lighting ...)

- Automation, robotics
- Online data and business management
- Package and storage solutions



Technical development to boost horticulture

- **Sensors, remote control connected to automatization**
- **From wastes to recycling and by-products**
- **Irrigation**

- **Soil quality (chemical, physical, biological) issues**
- **Knowledge of Soil fertility, Plant nutrient demand and supply (climate)**



From open air to protected cultivation

- Plastic tunnel, rain shelters, greenhouses
- Closer to year-round production
- Quality improvement
- Risk management



Greenhouses and Plant factories, vertical farming

- LED light development
- Solar panels, other energy solutions
- Robotics



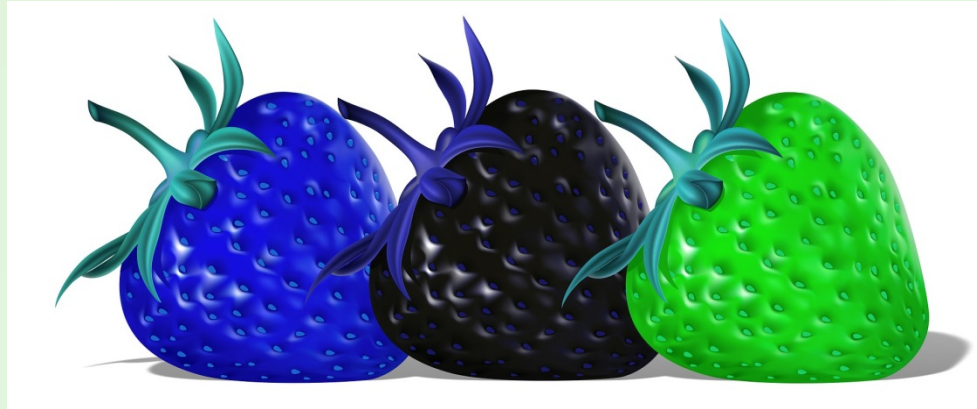
Multi-layer farming

- Small units
 - ✓ Homes
 - ✓ Restaurants
 - ✓ Food stores
 - ✓ Communities
- Large production units
- "Clean food"
- "IT-garden engineers"

New tools to improve horticultural production

- Biological and mechanical plant protection
 - ✓ Consumer attitude
 - ✓ Resistance to chemical control

- New cultivars
 - ✓ Variety testing
 - ✓ Classical breeding
 - ✓ Gene editing technology



Making business, marketing



- Diverse consumers, immigrants
- Diverse packages (size, quality, self life ...)
- Diverse products
- Potential buyers, market survey?
- Advertising (Internet tools, social media)
- "Stories behind products", brands

- Up-grade products
- Cooperators, networks
- Tourism in farm (farm animals, play grounds, evening & weekend events, safety issues ...)

Making business, marketing

From pick-your-own and farmers' markets to **new direct marketing channels**

(73% berry growers, 41% vegetable growers have direct marketing)

- Online selling
- Vegetable and fruit box delivery service
- Food circles

- Community supported production: consumers as share/risk holders: "Rent an apple tree!"
- Customer contacts, participatory
- Time for delivery, contacts
- Feedback, loyalty
- Sense of community

Making business, marketing

Marketing in food chains

- Negotiation power against strong shop chains
- Farmers associations, cooperative units
- Quality issues
- Export possibilities (quality, quantity, production assurance)



Key components to become a top-player

Human resources

- Entrepreneurship of farmer, company-style attitude (enthusiastic, ready to change, risky investments)
- Intellectual resources:
 - ✓ Education
 - ✓ Research
 - ✓ Consultation service



Other resources

- Technological solutions
- Marketing, customer orientation, logistics, subsidy system
- Networks, partnerships

The project VOIMAKAS “Vitality to the reform and growth of the horticultural sector!”



Natural Resources Institute Finland - Luke

- Kari Jokinen, project leader
- Tiina Mattila
- Terhi Suojala-Ahlfors
- Liisa Särkkä
- Vilja Varho

University of Turku

- Katja Borgelin
- Taina Eriksson
- Hilikka Halla
- Helka Kalliomäki
- Riikka Saarimaa



06.11



Turun yliopisto
University of Turku

Thank You!