

# Actual tasks in Seabuckthorn Research and Business

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- SBT growing, areas and yields
- SBT market in Europe
- SBT production
- SBT research

# SBT cultivars



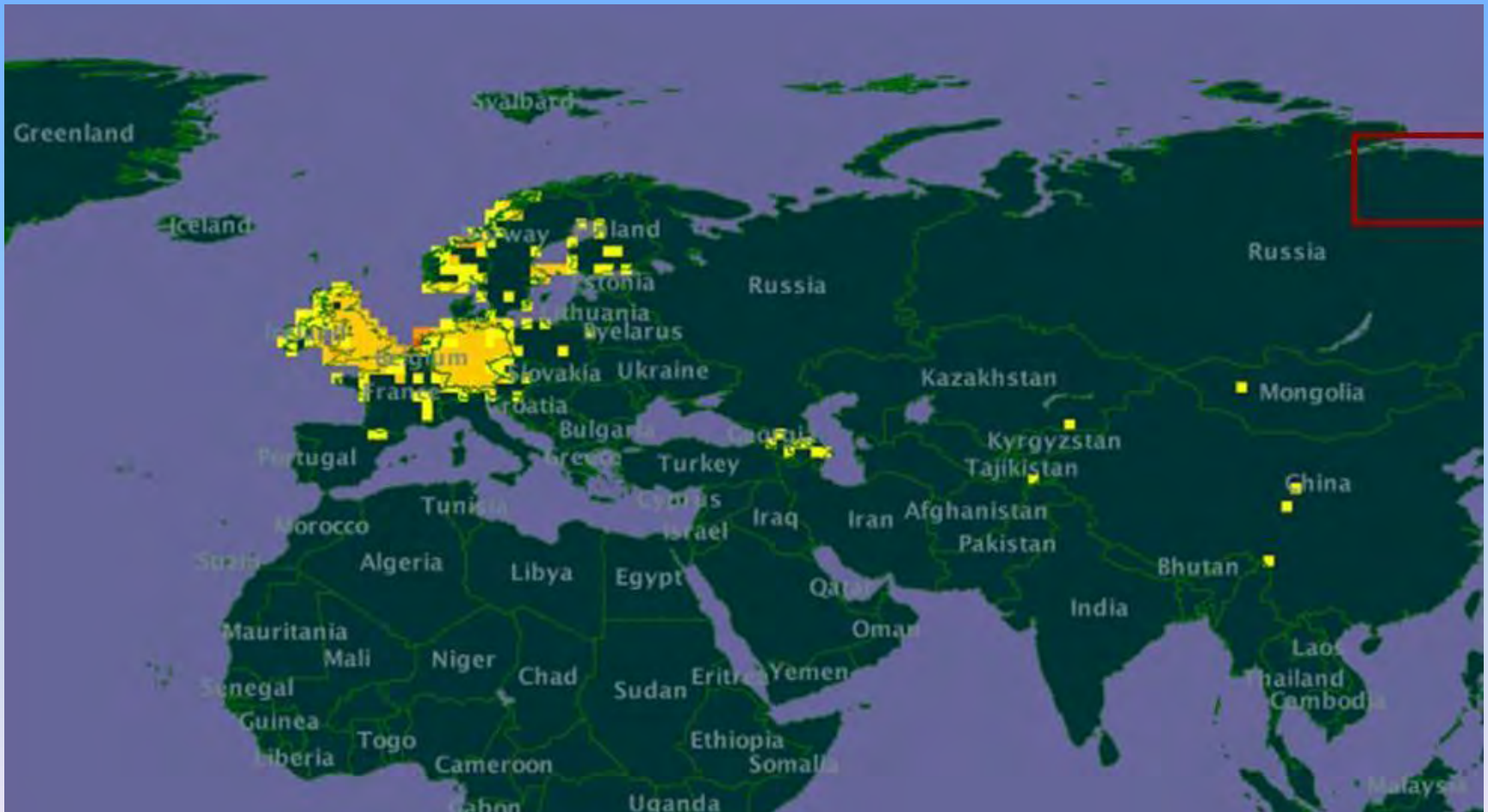
## SBT cultivars

- There are about 50 cultivars available in Europe and more than one hundred worldwide
- Breeding of new cultivars slowed down
- Political interest in new cultivars breeding is nearly zero
- Cultivars are adapted to local conditions – resulting not all cultivars are locally usable

## SBT cultivars

- Existing cultivars:
  - Are stable with good yield
  - Not all applications of products are possible
  - Breeding's goals and actual needs from market doesn't comply
  - Table fruits in W-Europe missing
  - Convenience semi products mostly missing

# SBT growing, areas and yields





# SBT growing, areas and yields



## SBT growing, areas and yields

- European productive areas:
  - Czech constant acreage
  - Estonia constant acreage
  - Germany slowly growing acreage
  - Hungary slowly growing acreage
  - Latvia slowly growing acreage
  - Lithuania growing acreage
  - Romania growing acreage



## SBT growing, areas and yields

- areas supplying European customers
  - Germany
  - SE Europe
  - Baltic countries
  - China
  - Russia
  - Mongolia

## SBT growing, areas and yields

- MY FORECATS supplying areas
  - Germany --
  - SE Europe +-
  - Baltic countries +
  - China ++
  - Russia ++
  - Mongolia ++

# SBT market in Europe



# SBT market in Europe

- Berries:
  - Frozen, rolling
  - organic grown
  - High level of residue free
- Semi-products
  - Seed oil (growing demand)
  - Pulp oil (stable high demand)
  - Raw juice of different (specified) qualities (stable demand)
  - SBT powder (actually growing demand)

## SBT market in Europe

- Actually no real market analysis available
- Grower know their buyers / processors
- Processors know their buyer
- SBT more and more trade good – sold via trading companies – quality risk
- No trustable origin and quality certification



# SBT production





## SBT production

- Still niche product
- Mostly in SME area produced and processed
- SBT oil (pulp and seed) already entered large scale cosmetics production companies
- As in the past use of juice is limiting factor
- Under German economy only profitable if both product streams (oils and juice) are used

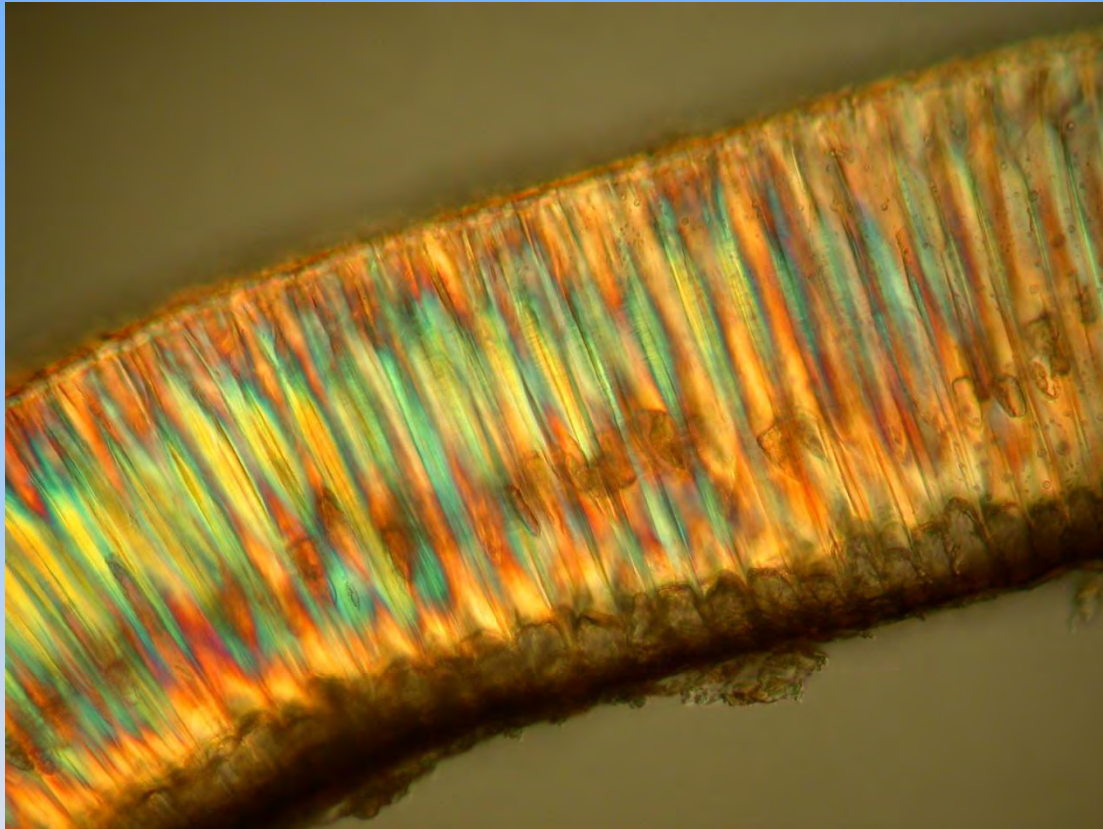
## SBT production

- Number of products still growing
- Driving forces:
  - Food supplements
  - Cosmetics
  - Food products
  - Animal feed
- Marketing regional, often in combination with tourism, specialties etc.

## SBT production

- EU legislation is limiting use of unused parts of SBT, e.g. leaves, bark
- Amendment of novel food directive (1997) is in the pipeline – nobody knows when and what will be included
- Strategy question for novel food applications costs vs. earnings

# SBT research



# SBT research

Component	General	Last 10 years
Proteins	Sum data	-
Carbohydrates	Sum data	Glycosides Sugars Something on Polysaccharides
Lipids from pulp	Basic evaluation	Detailed work
Lipids from seeds	Basic evaluation	Some work

# SBT research

Component	General	Last 10 years
Vitamins, water soluble	B-group, basic contents	
Vitamins, fat soluble	E, Pro-A, (A), basic data D, K	Detailed data E, Pro-A,
Carotenoids	Much data	Of less interest
Flavonoids	Less information	Many publications
Polyphenols	Sum data	Detailed data



# SBT research

- What is the problem?
  - Observed health effect not explained by composition
  - Many behaviors in production process only controlled by experience not by understanding
  - Medical applications need valid data and standardization on evidence basis

# SBT research

- What is the problem?
  - We still mostly focus on ONE target
    - Berries, Leaves
    - Seed oil, Pulpoil
  - We don't see the whole plant
  - Symbiosis is still understood as N-fixing effect  
But we know capability of *frankia ssp.*

# SBT research

Target	Possible structures
Small bioactive molecules	Heterocycles
	Alkaloids
	Peptides
Large bioactive molecules	Proteins
	Lignanes, lectines

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# Conclusions

- SBT is a plant with a great scientific and economic potential
- Cultivation will grow, but slower
- Production will grow slowly
- Production of final goods and product range will grow quickly
- market of SBT products will become international, not only for raw material
- Use of side products depends on development of legal situation

# Tasks

- We need research activities on:
  - Nutritional evaluation
  - Bioactive components composition
  - Complex constitution – effect correlation not 1:1 but x:y
  - Medical applications
- We need legal evaluation for side products



# Conclusions / Questions

Georg Christoph Lichtenberg  
1742 – 1799, German philosopher

Ich weiß nicht, ob es besser wird, wenn es anders wird. Aber es muss anders werden, wenn es besser werden soll.

I do not know if it will be better if it is changed. But it needs to be changed to become better.

# Thanks for your kind attention

