



Finding a market for (white) lupins in the north-western part of Europe

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Lupins only relative small acreage

Grain legume	Acreage (ha)
Soybeans	123,551,146
Common beans	36,458,894
Chick peas	14,564,399
Cow peas	12,577,845
Peas	8,141,031
Lentils	6,582,779
Faba beans	2,463,966
Lupins	930,717





Overdependence on imported soy for feed

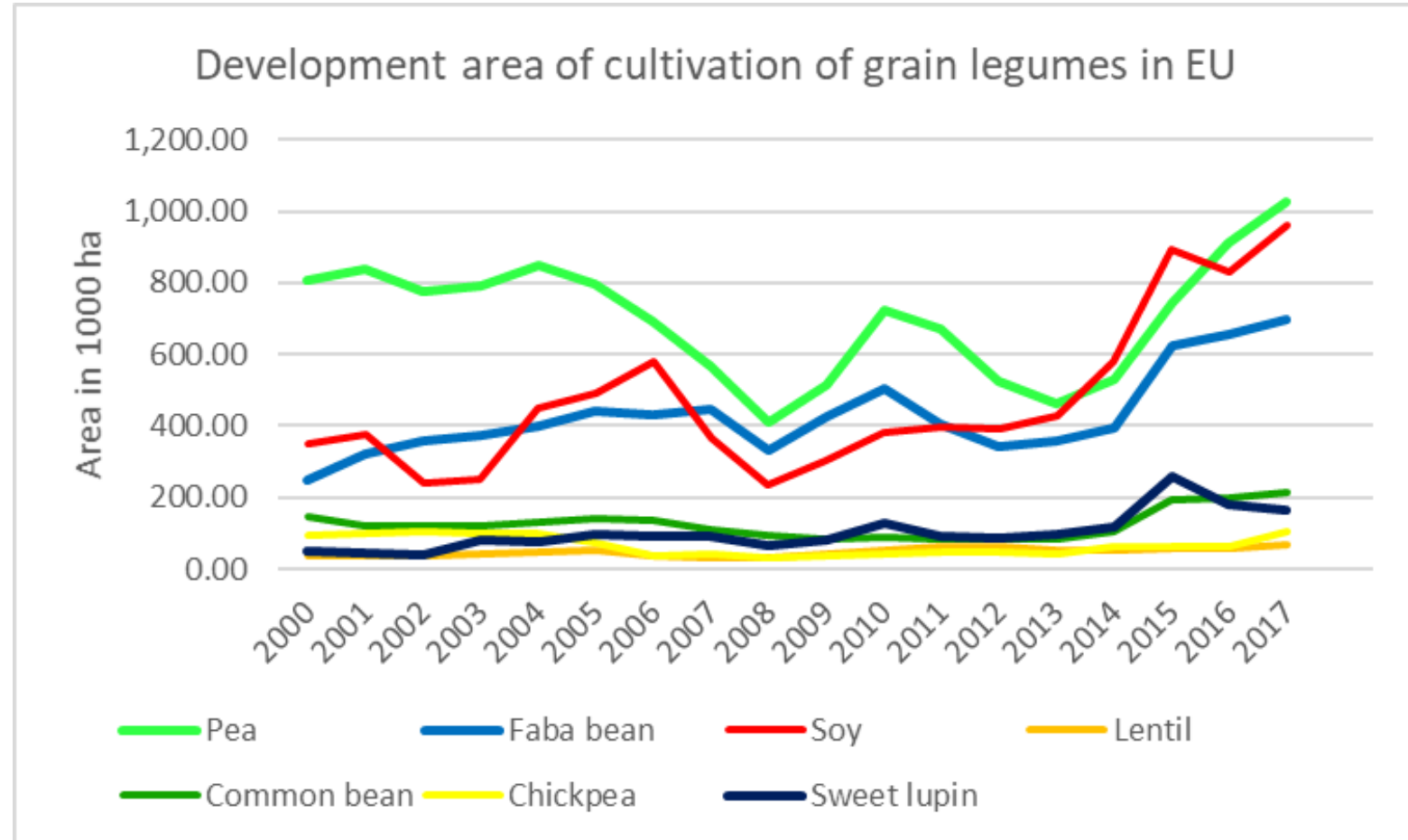
EU-production of soy: 2.7 Milion Tons/year

EU-import of soy: 34.0 Milion Tons/year

- Research programme's
- Financial support for grain legumes (some countries)
- Seen as part of 5% ecology friendly measure (EU-greening bonus)



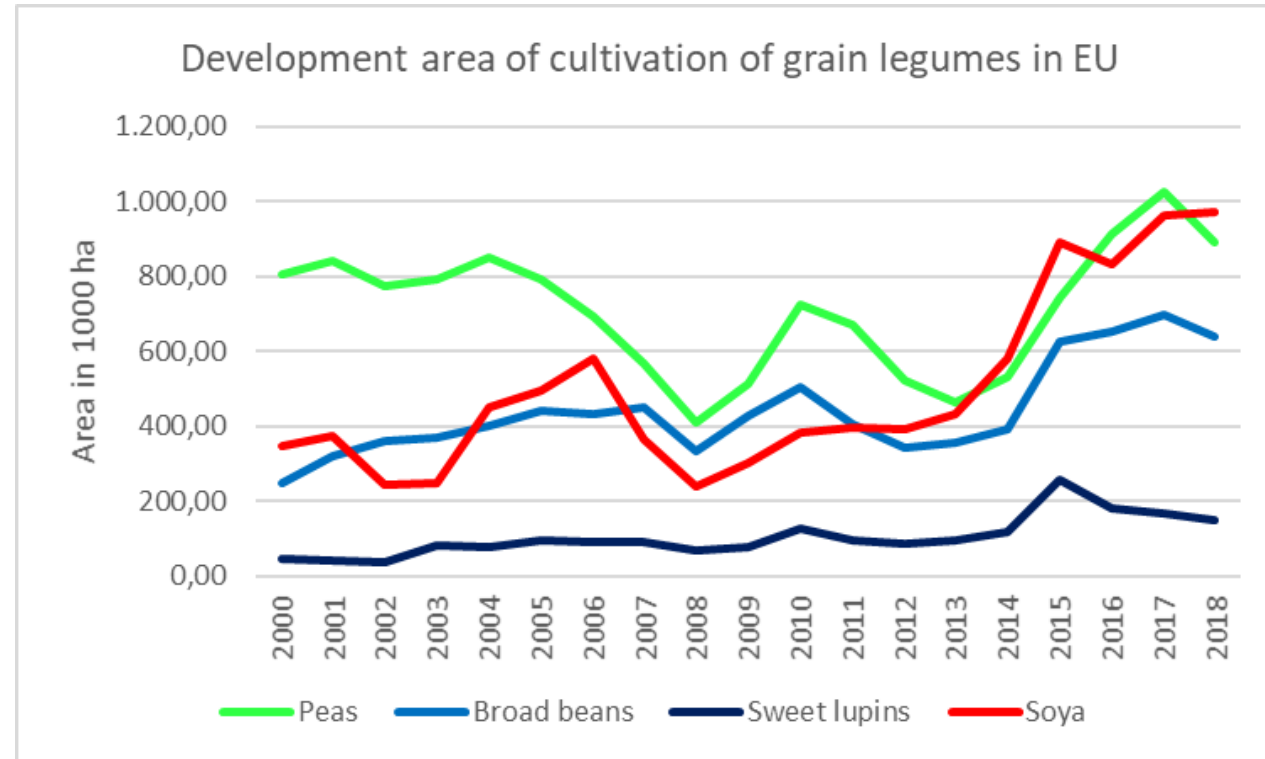
Grain legumes in EU since 2000



Lupins (350%), Faba beans (280%) and Soya (280%) showed biggest relative growth. However: Lupins are still a minor grain legume in Europe as well.



Ontwikkeling peulvruchten in EU



Field peas		Broad beans		Sweet lupins		Soya	
France	19%	UK	25%	Poland	66%	Italy	27%
Spain	17%	Lithuania	11%	Germany	16%	Serbia	20%
Romania	14%	Italy	10%	Greece	9%	Romania	18%
Lithuania	13%	France	9%	Lithuania	2%	France	16%
Germany	8%	Germany	9%	Czechia	2%	Croatia	9%



Main lupin producers worldwide

	2017/2007		
World	930,716 ha	% area	
Australia	514,596 ha	55%	70%
Russian Federation	104,272 ha	11%	682%
Poland	103,276 ha	11%	246%
Morocco	96,126 ha	10%	171%
Germany	29,000 ha	3%	115%
Chile	19,740 ha	2%	93%
Ukraine	12,300 ha	1%	171%
South Africa	11,484 ha	1%	82%
Peru	10,326 ha	1%	138%
France	6,848 ha	1%	141%



Growing grain legumes for feed is not economically viable in The Netherlands

Reference crop: wheat €1800-€2000/ha!

	% protein	price/kg			yield (t/ha)	value per hectare		
soy oilcake	48%	€ 0,30	€ 0,35	€ 0,40				
soy bean	38%	€ 0,24	€ 0,28	€ 0,32	3,0	€ 712,50	€ 831,25	€ 950,00
veldboon	28%	€ 0,18	€ 0,20	€ 0,23	6,0	€ 1.050,00	€ 1.225,00	€ 1.400,00
erwt	24%	€ 0,15	€ 0,18	€ 0,20	4,5	€ 675,00	€ 787,50	€ 900,00
lupine	33%	€ 0,21	€ 0,24	€ 0,28	3,0	€ 618,75	€ 721,88	€ 825,00



For organic it is a bit better

Reference crop: wheat €1800-€2000/ha!

	% protein	price/kg			yield (t/ha)	value per hectare		
soy oilcake	48%	€ 0.65	€ 0.70	€ 0.75				
soy bean	38%	€ 0.51	€ 0.55	€ 0.59	2.0	€ 1,029.17	€ 1,108.33	€ 1,187.50
veldboon	28%	€ 0.38	€ 0.41	€ 0.44	4.5	€ 1,706.25	€ 1,837.50	€ 1,968.75
erwt	24%	€ 0.33	€ 0.35	€ 0.38	4.0	€ 1,300.00	€ 1,400.00	€ 1,500.00
lupine	33%	€ 0.45	€ 0.48	€ 0.52	2.5	€ 1,117.19	€ 1,203.13	€ 1,289.06



Shift from feed to food in The Netherlands

	% protein	price/kg			yield (t/ha)	value per hectare		
soy oilcake		€ 0,30	€ 0,35	€ 0,40				
soy bean				€ 0,28		€ 851,25	€	950,00
veldboon	28%					€ 850,00	€ 1.225,00	€ 1.400,00
erwt			€ 0,18	€ 0,20	4,5			€ 900,00
lupine	33%	€ 0,21	€ 0,24	€ 0,28	3,0	€ 618,75	€ 721,88	€ 825,00



yield	poolprice	value per hectare
2,5 t/ha	€ 0,53/kg	€ 1.325,00/ha
3,0 t/ha	€ 0,53/kg	€ 1.590,00/ha
3,5 t/ha	€ 0,53/kg	€ 1.855,00/ha



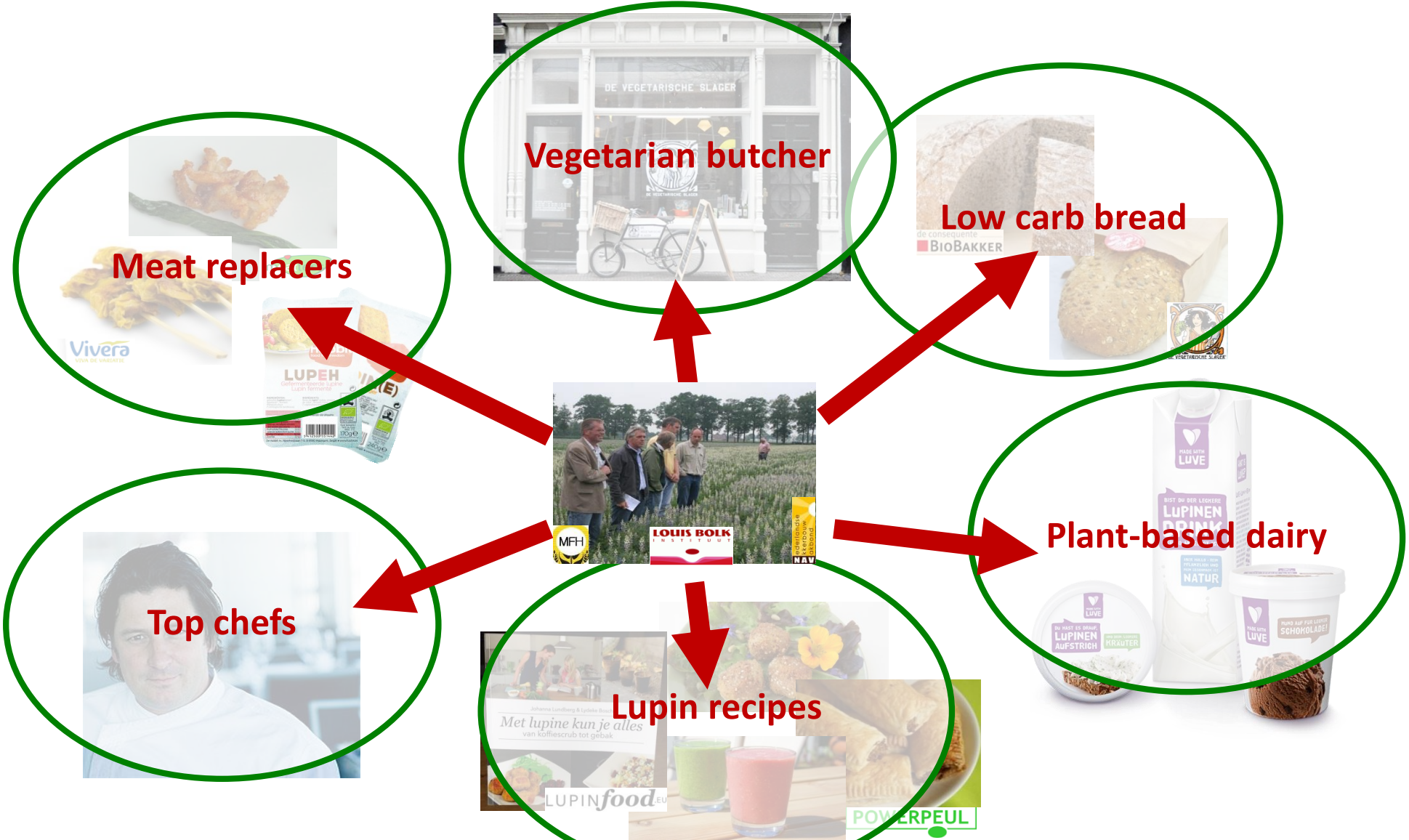


Lupins as super food





Lupin market chain





...but not always easy

- Lupin flour and protein relatively unknown ingredient which generates technical challenges
- Lupins were added to the list of allergens in the EU in 2012
- Lupin protein concentrate/isolate only available on small scale and therefore very expensive
- For *L. angustifolius*: Regional market chains unable to generate enough surplus on price due to the large areas of extensive production with low prices.

Shift to white lupins

- More suitable for direct consumption (thinner seed coat)
- A lot of possibilities for minimally processed food items
- Has a long history as a food ingredient (traditional food)
- Production of *L. albus* less wide spread (especially organic) so less international pressure on price



Building a market

- Short market chain
- Minimally processed
- Mainly organic

POWERPEUL



- *Brotbüro logo*
- *Tempeh Purvegan*
- *Lupin coffee*
- *Lupin spreads*



Challenges

- De-hulling
- Improvement on meeting quality demands (sweetness, uniform, clean and white seeds)
- Finding a more diverse client base
- Improving yield stability
- Finding a market for low quality (eg pet food)
- Promotion, promotion, promotion

