

Introduction NAK
Aspects of seed potato certification in NL
 2017
 Henk van de Haar

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EU regulations – basis for seed certification

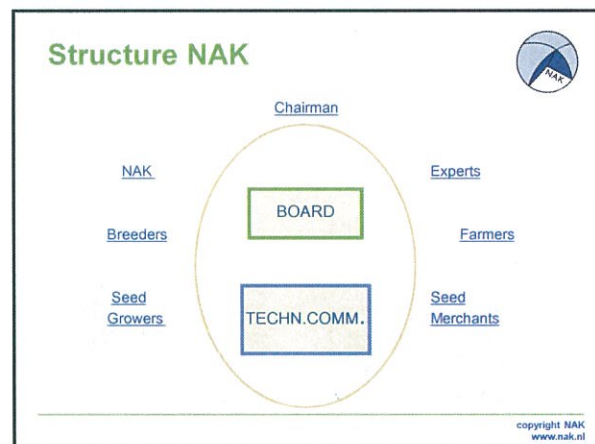
- Phyosanitary directive (2000/29/EC)
 - control directives (e.g. Cms, Rs)
 - reference to IPPC (ISPM's) and EPPO
- Marketing directive (2002/56/EC)
 - for marketing in EU
 - only marketing of certified seed allowed
 - not for export to non-EU countries
 - not for farm saved seed
 - official inspection and labelling
- Plus national requirements (NAK regulations)

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NAK

- Public body; government supervision.
- 220 permanent staff + 60 temporary staff
- 80 full-time inspectors
- Inspection fees, no government funding

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Activities NAK




- Inspection and certification of agricultural seed crops:
cereals (incl. maize), grasses, pulses, flax, rape, poppy, caraway, mustard, hemp, clovers, sugar beet and seed potatoes



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Acreage in ha




- Inspection and certification of agricultural crops:
cereals (incl. maize), grasses, pulses, flax, rape, poppy, caraway, mustard, hemp, clovers, sugar beet and potato


Potatoes	41.000
Fodder crops	13.500
Cereals etc.	7.800
Total	61.300

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Seed potatoes in the Netherlands



- Moderate climate with appropriate water supply
- Usually low aphid populations
- Excellent soils
- Specialized farmers
- Seed production tradition
- 41.060 ha seed (2017)



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Seed infrastructure




- Production is a private activity
- 1.400 seed farmers
- Seed companies
- Seed company is breeder and trader
- Official inspection NAK



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Part 2


aspects seed certification



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Classification new (2016)

Category	Grade (class)
Prebasic	PBTC (minitubers)
	PB (PB 1 – PB 4)
Basic	S (G 5)
	SE (G 6)
	E (G 7)
Certified	A (G 8)
	B (G 9)

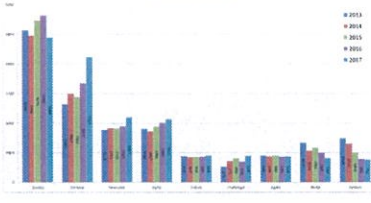



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Main varieties 2017



Spunta	4.884 ha
Fontane	4.225 ha
Agria	2.130 ha
Innovator	2.201 ha
Binje	912 ha
Desiree	763 ha
Agata	875 ha
Fabula	899 ha
Challenger	893 ha
Arizona	700 ha

main varieties

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Clonal selection (10% of total seed production)

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7400

Minitubers (or plantlets)

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Elements of inspection system

- Application
- Field inspection
- Haulm killing dates
- Post harvest tests
 - virus,
 - *Ralstonia solanacearum*, *Clavibact.m.s*
- Lot inspection

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Disease tolerances field inspection (%)

Class	PB/S	SE	E	A	B
Mosaic/ Leafroll	0,025	0,05	0,1	0,25	2
Blackleg (<i>Erwinia</i> spp)	0	0	1 pl/ha	0,03	0,1
Off-types	0	0	0,025	0,01	0,2

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Roguing and inspection

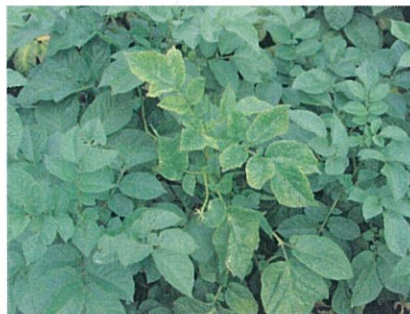
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Varietal mixtures (Bintje-Agria)



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Off-type (mutation)



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Varietal identity





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Varietal identity – Spunta case





Blackleg



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PLRV and PVY



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Aphid monitoring – yellow trap and suction trap





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Haulm killing

Timing based on:

- tuber size
- aphid and infection pressure
- PVY susceptibility of varieties
- crop maturity



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Post harvest tests



- 1 sample for virus and Brown-/Ringrot
- Sample size: 200 tubers (max. 6 ha)
 - Virus: 4 reactions x 50 tubers
 - Brown-/ringrot: 1 reaction x 200 tubers



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Post harvest virus tolerances



Number of positive reactions on 200 tubers:

Number of positive reactions on 200 tubers:	Maximum class
0	PB/S
1	SE, E (0,6%)
2	A (1,4%)
3	A (2,7%)
4	rejection

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Lot (tuber) inspection



- Inspection during grading:
 - NAK standards
 - requirements importing countries
- Certification:
 - NAK-labels
 - Phytosanitary certificate - outside EU

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Lot inspection tolerances

	NAK	EU
Wet rot	Practically none	0.2 % by weight
Dry rot	Practically none	0.5% by weight (max. 0.2 wet)
Phytophthora	Practically none	in rot tolerance
Common scab	max. 1/8 surface in tolerance	1/3 of surface cover
Powdery scab	common scab	10% surface cover
Rhizoctonia	PB - SE max10%light E/A/B max25%light	PB: 5% surface cover S-B: 10% surface cover
External defects	4-12 per 50 kg	3% of weight
Adhering soil	1% of weight	2% of weight

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Nature's surprises

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Guaranteed certified

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Happy potato family

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Inspection fees



PCN soil test:	€ 43,00 – 69,00 /ha
Field inspection:	€ 65,00 /ha
Virus test 'combi':	€ 81,50 (200 tubers)
Virus test separate:	€ 116,00 (200 tubers)
Brown rot/ring rot:	€ 84,00 /sample
Lot inspection:	€ 3,00 /ton

(labels and documents excluded)

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~ € 75, /ha.

