

Survey on Lot and Sample Sizes

Specialized Section on
Standardization of Seed Potatoes



Survey Respondents



32 Total Responses

The survey asked for information on lot and sampling sizes as well as about lot sizes for the marketing of seed potatoes. There were 32 responses received from 31 countries. 21 of the responses were complete, and 11 were partially complete.

Participating countries:

- ✓ Austria
- ✓ Belgium
- ✓ Bulgaria
- ✓ Cyprus
- ✓ Czech Republic
- ✓ Denmark
- ✓ Estonia
- ✓ Finland
- ✓ France
- ✓ Germany
- ✓ Greece
- ✓ Hungary
- ✓ Kenya
- ✓ Latvia
- ✓ Lithuania
- ✓ Luxembourg
- ✓ Malta
- ✓ New Zealand
- ✓ Norway
- ✓ The Netherlands
- ✓ Poland
- ✓ Russian Federation
- ✓ Serbia
- ✓ Slovak Republic
- ✓ Slovenia
- ✓ South Africa
- ✓ Spain
- ✓ Sweden
- ✓ Switzerland
- ✓ United Kingdom
- ✓ United States

Survey Design



Survey on "Lot size and sample size of seed potatoes"						
Country		size of area	maximum weight of lot	sample size		
		in ha	in kg	in no. of tubers	in kg	other
	virus testing					
	<i>Clavibacter michiganensis</i> subsp. <i>sepedonicus</i>					
	<i>Ralstonia solanacearum</i>					
	testing for tuber diseases and external defects (sampling for lot inspection)					
	post-control trials					
	Do you have any additional comments?					
Additional question	Do you limit the maximum lot size for marketed seed potatoes?					

➤ Sent within the E-Mail text.

Result Design



2		1	2	3	4	5	6	7	8	9	
3		size of area	maximum weight of lot	virus testing	<i>Clavibacter michiganensis</i> ssp. <i>sepedonicus</i>	<i>Ralstonia solanacearum</i>	tuber diseases and external defects (sampling for lot inspection)	post-control trials	remarks		
4		in ha	in kg	no. tubers	no. tubers	no. tubers	no. tubers	no. tubers			
5	Austria	AT	6 ^{3,4,5,6,7}	n.a.	110 – 330	200	200	200	100		
6	Belgium-Wallonie	BE-Wa	≤5, >5 ^{3,9}	<5,000 – >125,000 ^{7,9}	120 – 480 ^{1,5}	200	200	n.a.	50 – 300 ^{2,9}	120	^{1,3} sample size depends on category and production area size. ^{2,7} sample size depends on
7	Belgium-Flanders	BE-FI	≤5, 10, >5, 10 ^{3,10}	n.a.	130 – 200	200	200	– ⁹	n.a.	110	^{1,3} sample size depends on category and production area size. ⁶ no sample is taken exce
8	Bulgaria	BG	1 ^{4,5}	50,000 ^{4,5}	n.a. ⁸	200	200	n.a.	200	150 ^{EU A} – 250 ^{PB, B}	⁸ Elisa post-harvest virus testing
9	Switzerland	CH	0.01 ^{3,6,7,8} , 0.19 ^{4,5} , 4.1 ^{4,5} , 7 ^{3,6,7,8}	–	96, 200, 296	200	200	100	n.a.	100	
10	Cyprus	CY	n.a.	n.a.	110 / per lot	200 / per lot	200 / per lot	n.a.	100 / per lot	n.a.	
11	Czech Republic	CZ	2 ^{3,4,5}	40,000 ^{6,7}	220	220	220	n.a.	25	n.a.	please refer to country sheet for more detailed information
12	Germany	DE	3 ^{3,4,5}	50,000	105	210	210	–	25	105	
13	Denmark	DK	1 – 8	10,000 – >50,000 ^{6,7}	110 ⁹	200 ⁹	200 ⁹	50 – 150 ⁹	n.a.	–	³ PB: 1 sample / ha; B: 1 sample / 7 ha; ^{4,5} production sites sizes <8 ha: 1 sample / 4th ha
14	Estonia	EE	1 ^{4,5} – 3 ³	n.a.	130	200+5	200+5	200 ⁹	n.a.	–	⁶ size of tuber samples for quality inspection is depending on the size of the seed potato
15	Spain	ES	<3, 3 – 6, >6	40,000 ⁹ – 100,000 ^{Cot}	100 ^{<3ha} – 200 ^{>3ha}	200 ^{<3ha} , 400 ^{3-6ha} , 600 ^{>6ha}	200 ^{<3ha} , 400 ^{3-6ha} , 600 ^{>6ha}	n.a. ⁹	n.a. ⁹	110	^{4,5} area per farmer and variety; ^{6,7} Minimum one package of each size for each subplot (mir
16	Finland	FI	field ³ , 3 ^{4,5}	10,000 ⁷ – 50,000 ^{6, PB, B}	200	200	200	400	10	–	Lot inspection of Pre Basic and Basic seed: all tubers are washed and cut. Lot inspectio
17	France	FR	<2 ^{PB, B} , 2 – 5 ^{PB, B, Cot} , >5 ^{PB, B, Cot}	10,000 ^{6,7}	100 ^{Cot} – 400 ^{PB, B}	200 ⁹ – 400	200 ⁹ – 400	min 200	20 / 10t	10 ^{PB, G0, G1}	^{4,5} also for Meloidogyne nematods (and other potential quarantine pests for monitoring or
18	Greece	GR	1 ^{3,4,5}	15,000	100	200 ⁹	200 ⁹	400	n.a.	100	^{4,5} same sample
19	Hungary	HU	1 ^{3,4} SE – 3 ⁴ B – Cot	15,000 ^{4,5} – 25,000 ^{6,7}	150	200	200	400	20	200	
20	Kenya	KE	20 ^{3,4,5}	40,000 ^{6,7,8}	n.a.	n.a.	n.a.	400	n.a.	120	^{3,5} Testing is done at the field level. Sample are taken before the crop is harvested. ^{6,7,8} L
21	Lithuania	LT	3 ³	25,000	110	200	200	200	n.a.	n.a.	³ tubers or leaves; 110 tubers per 25,000 kg are used for market control
22	Luxembourg	LU	>0.5 ^{SE, E} , <2 ^{PB1-S} , >2 ^{PB1-S}	30,000 ^{4,5} – 50,000 ⁵	125 ^{SE, E} , 250 ^{PB1-S} , 375 ^{PB1-S}	200	200	200	n.a.	110/per lot	
23	Latvia	LV	no limit ^{3,8}	50,000 ^{4,5} – 100,000 ^{6,7}	120	200	200	≥200 ^{FE} – >400 ^{all others}	n.a.	120	
24	Malta	MT	–	–	–	–	–	–	–	–	please refer to country sheet for more detailed information
25	Norway	NO	n.a.	50,000 ⁷	200 ⁹	200	200 ⁹	n.a.	10	–	³ Same sample is used for virus and for ring rot (brown rot, Dickeya) testing. ⁵ Not tested
26	The Netherlands	NL	6	n.a.	200	200	200	n.a.	50 – 300 ⁹	200 ⁹	⁶ 500 samples / year; ⁷ sample size depends on the lot size, larger sample size is possibl
27	New Zealand	NZ	no limit ^{6,7}	no limit ^{6,7}	0 ¹⁰	n.a.	n.a.	100 / 10 t	n.a.	–	³ virus testing only in field; ⁷ 100 tuber weight recorded
28	Poland	PL	10 ³	25,000 ^{4,5} – 50,000 ⁵	110 ^{EU A, B} – 220 ^{PB, SE, E}	200	200	n.a.	400	–	^{4,5} one sample per ha; please refer to country sheet for more detailed information
29	Serbia	RS	1 ^{3,4,5}	50,000, 200,000, ≥200,000 ^{6,7}	120	200	200	1 / ton, min 200	250 / 50t; 50 on 1t	–	
30	Russian Federation	RU	no limit	>10,000, >30,000 ^{6,7}	100 ^{ES} – 200 ^{CS}	n.a.	n.a.	375	8 – 16 ³ , 30 ⁷	25	please refer to country sheet for more detailed information
31	Sweden	SE	10 ³	1,000,000 ^{4,5}	100	200	200	n.a.	n.a.	n.a.	Lot size for virus testing depends on which class they are going to be certified in, 10 ha
32	Slovenia	SI	0.5 ^{3,8}	n.a.	102	220	220	220	n.a.	102 ^{B, Cot} – 204 ^{PB}	
33	Slovakia	SK	4 – 10 ³ , 2 – 12 ^{4,5}	n.a.	110 – 330 ⁹	200 – 600 ⁹	200 – 600 ⁹	n.a.	n.a.	n.a.	^{1,3,4,5} sample sizes depend on category and size of area: ³ basic sample size 110; ^{4,5} basi
34	United Kingdom	UK	n.a.	n.a.	200	200	200	no maximum	n.a. ⁹	n.a.	UK Scotland; ⁷ Large (1 tonne+) bags are sampled using numerous 100 tuber samples to
35	United States	US	> 1 acre	n.a.	400 ⁹	n.a.	n.a.	n.a.	n.a.	400	³ per seed lot, please refer to country sheet for more detailed information
36	South Africa	ZA	<0.1 – 0.5 ³ , 2.5 – 5 ^{3, G1, Cot}	n.a.	80 – 160 – 200 – 240 – 320 – 400 ⁹	n.a.	4,605 / planting	n.a.	n.a.	60 ⁹	³ per 5 000 x 25 kg containers, please refer to country sheet for more detailed informatic

Result Design



➤ Please refer to the country sheet for more detailed information

- Sorted according to Country Code (ISO 3166)

- Column headers:

1 = size of area; 2 = maximum weight of lot;

3 = virus testing; 4 = *Clavibacter michiganensis* ssp. *sepedonicus*; 5 = *Ralstonia solanacearum*;

6 & 7 = tuber diseases and external defects (sampling for lot inspection);

8 = post-control trials,

9 = remarks



Do you limit the maximum lot size for marketed seed potatoes?

• 21 responses

No: 17

Yes: 4

Country	Answer
Cyprus	No - but most areas < 0,5 ha; 1 lot = max. 1 ha
Greece	No - but lot ~15 t, max. field size 1ha
Norway	No - but 50 t represented by one sample
New Zealand	No - it was 50 t
Austria	Yes - 1 lot = max 6 ha
Czech Republic	Yes - 50 t
Serbia	Yes - 20 t
Slovakia	Yes - 50 t

Results - Size of Area



	Size of area in ha		Size of area in ha
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responses

32*

no limits:

3 (LV, NZ, RU)

n.a. :

4 (CY, MT, NO, UK)

limits:

25 countries

- **0,01 – 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 10 – 20 ha**
- depending on seed category and reason for sampling

* BE-Flanders and Wallonia

1 = size of area; 2 = maximum weight of lot; 3 = virus testing; 4 = *Clavibacter michiganensis* ssp. *sepedonicus*; 5 = *Ralstonia solanacearum*; 6 & 7 = tuber diseases and external defects (sampling for lot inspection); 8 = post-control trials

Results - Maximum weight of lot



	Maximum weight of lot in kg		Maximum weight of lot in kg
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responses 32*

no limits: 1 (NZ)

n.a.: 12 (AT, BE-F, CH, CY, EE, MT, NL, SI, SK, UK, US, ZA)

limits: 19 countries

- < 5,000 – 10,000 – 15,000 – 25,000 – 40,000 – 50,000 – 100,000 – > 125,000 kg
- depending on bag size, category and reason for sampling

* BE-Flanders and Wallonia

Results – sampling size



sampling size

virus testing
no. tubers

sampling size

virus testing
no tubers

responses

32*

n.a. of:

4 (BG, KE, MT, NZ)

specification: 28 countries

➤ **80 – 96 – 100 – 102 – 105 – 110 – 120 – 125 – 130 – 150 – 160 –
200 – 220 – 240 – 250 – 296 – 320 – 330 – 375 – 400 – 480**

➤ depending on field size and category

* BE-Flanders and Wallonia

Results – sampling size



sampling size	<i>Clavibacter michiganensis</i> <i>ssp. sepedonicus</i> no. tubers	<i>Ralstonia solanacearum</i> no. tubers
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responses 32*

n.a. of: 5 (KE, MT, NZ, RU, US, (ZA))

specification: 27 countries

- **mostly 200 tubers**
- **depending on field or lot size**

* BE-Flanders and Wallonia

Results – sampling size



sampling size	<i>tuber diseases and external defects</i> no. tubers	sampling size	<i>tuber diseases and external defects</i> in kg
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responses 32*

n.a.: 6 (BE-F, ES, MT, SK, US, ZA)

specification: 26 countries

- **range: 50 – 400 tubers, 7 – 400 kg**
- either sampling of specific number of tubers or quantity in kg

* BE-Flanders and Wallonia

Results – post control trials



sampling size	Post control trials no. tubers
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responses

32*

n.a.:

14

(CY, CZ, DK, EE, FI, LT, MT, NO, NZ, PL, RS, SE, SK, UK)

specification: 18 countries

- **range: 10 – 400 tubers**
- **depending on category**

* BE-Flanders and Wallonia

1 = size of area; 2 = maximum weight of lot; 3 = virus testing; 4 = *Clavibacter michiganensis* ssp. *sepedonicus*;
5 = *Ralstonia solanacearum*; 6 & 7 = tuber diseases and external defects (sampling for lot inspection); 8 = post-control trials

Summary of Results



Key Findings:

- ✓ 31 countries participated in the survey
- ✓ huge variation in lot sizes (area, weight)
- ✓ huge variation in sampling sizes
(virus, tuber diseases/external defects, post control trials)
 - ✓ Uniform sampling size only for
Clavibacter michiganensis ssp. *sepedonicus*, *Ralstonia solanacearum*
- ✓ Lot size for marketed seed potatoes mostly not restricted

Thank you!

