

ANNEX 3

SURVEY METHODS USED BY THE MEMBER STATES-BASIC SURVEY 2007

	BELGIUM	BULGARIA	CZECH REPUBLIC	DENMARK
1. Coverage				
1.1 Species surveyed				
1.1.1 Based on Directive	Apple and pear trees (dessert varieties)	Apple, pear, peach and apricot trees (dessert varieties)	Apple, pear, peach and apricot trees (dessert varieties)	Apple and pear trees (dessert varieties)
1.1.2 Others	Not mentioned	Cherry, morello, plum, walnut, almond	Cherry, Sour cherry, Plum, other fruit and bushes (Walnut, Cobnut, Almond, Currant bushes, Goose-berry bushes, Bramble bushes, Raspberry bushes)	None
1.2 Holdings (minimum threshold of orchards)	Not mentioned	All holdings fit to the thresholds for agricultural holdings in FSS that cultivated at least 500m ² of orchards and having orchard parcels of at least 500m ²	Holdings have to respect two conditions: at least 15 are of orchard and >50% of the fruit production for market	All holdings with planted areas with apple and pear trees for commercial purposes
2. Type of survey	Not mentioned	Exhaustive survey (for holdings that cultivate more than 1 dca orchards) and sample survey (for holdings that cultivate less than 1 dca orchards)	Complete census, face to face interviews (3,069 holdings)	Complete census, mail survey (??? holdings)
3. Reference period/date	Not mentioned	The crop year 2006/2007 for the utilized agricultural area of survey holdings; The autumn 2006-spring 2007 for new planted orchards	1 st May 2007	31 st May 2007
4. Survey date	Not mentioned	16 June -31 August 2007	Not mentioned	June 2007
5. Survey characteristics				
5.1 Based on Directive				
5.1.1 Orchard area considered	Not mentioned	The fruit plantations in the agricultural holdings	Gross area, covering net and mixed plantations	Net area
5.1.2 Varieties	Not mentioned	Specified significant varieties and "others"	Specified significant varieties and "others"	Pre-selected list of major varieties, plus "others"
5.1.3 Age	Not mentioned	Age classes determined from the year of planting	Age of trees is counted since the year of planting	Age classes determined since the year of planting

	BELGIUM	BULGARIA	CZECH REPUBLIC	DENMARK
5.1.4 Density	Not mentioned	Calculated through the distance of planting between the rows and in the rows for each fruit species and it was estimated as number of trees per ha	Calculated on the basis of the number of trees and planted area	Calculation based on planted area and the number of trees
5.2 Others	Not mentioned	Holdings cultivating fruit trees, areas of new plantations and grubbed and destination of fruit production	Not mentioned	Not mentioned
5.3 Accuracy	Not mentioned	Not mentioned	Not mentioned	Not mentioned

	GERMANY	ESTONIA	IRELAND	GREECE
1. Coverage				
1.1 Species surveyed				
1.1.1 Based on Directive	Apple and pear trees	Apple trees (dessert varieties)	Apple trees	Apple, pear, peach, apricot, orange, small citrus fruit and lemon trees
1.1.2 Others	Peach, apricot, plum, cherry and walnut trees	None	None	Cherry trees
1.2 Holdings (minimum threshold of orchards)	Holdings with at least 30 are of the defined species, producing fruit for sale	All holdings which produce apple for sale	All holdings with commercial orchard area All holdings with greater than 0.10 ha of apple, including cider	Holdings with at least 10 are (0,1 hectare) planted with the defined species
2. Type of survey	Complete enumeration	Survey conducted jointly with the FSS. This survey was a combination of complete enumeration for greater surveys and a sample survey for small ones: number of holdings surveyed was 20,000.	Complete census, conducted by post with visit to the farm if needed	Stratified sample by size classes of orchard with exhaustive survey to holdings with more then 10 ha
3. Reference period/date		1 st June 2007	31 st March 2007	
4. Survey date	January-June 2002	June-November 2007	August 2007	May-July 2002 Reference period
5. Survey characteristics				
5.1 Based on Directive				
5.1.1 Orchard area considered	Net area	Net area	Net area	Net area of regular groves, separated on a <i>pro rata</i> basis if mixed regular groves (more than 1 specie)
5.1.2 Varieties	Exhaustive coverage of varieties	Pre-selected list of major varieties (4 from EU list + 28 local varieties.), plus "others"	Exhaustive coverage of varieties. Pre-selected list of major varieties, plus 'others'	Pre-selected list of major varieties, plus "others"
5.1.3 Age	The actual year of planting (autumn or spring)	The actual year of planting	The actual year of planting	The actual year of planting (autumn or spring)
5.1.4 Density	Calculation based on the number of trees per hectare or on tree spacing in and between rows	Calculation based on the number of trees and of area	Calculation based on planted area and the number of trees	Calculation based on planted area
5.2 Others	Not mentioned	Not mentioned	Significant amount of information on farms producing apples	Not mentioned

	GERMANY	ESTONIA	IRELAND	GREECE
5.3 Accuracy	Not mentioned	Comprehensive number of tests. Sampling error:0,8%	Census survey	The coefficients of variation (%) of production zones for each variety of trees separately do not exceed the 2% at total of country

	SPAIN	FRANCE	ITALY	CYPRUS
1. Coverage				
1.1 Species surveyed				
1.1.1 Based on Directive	Apple, pear, peach, apricot, orange, small citrus fruit and lemon trees	Apple and pear (dessert varieties), peach, apricot, orange, small citrus fruit and lemon trees	Apple and pear (dessert varieties), peach, apricot, orange, small citrus fruit and lemon trees	Apple and pear (dessert varieties), peach, apricot, orange, small citrus fruit and lemon trees
1.1.2 Others	Not mentioned	Plum, cherry, kiwi and nut trees	Not mentioned	Grapefruit trees
1.2 Holdings (minimum threshold of orchards)	Holdings with at least 5 are producing fruit intended for sale	Holdings with at least 50 are of orchard area Orchard is a regularly maintained plantation (annual cut, regular treatments) of fruit trees (for human consumption or for industry), of a density of at least 100 individuals per hectare, i.e. a maximum spacing of 10 to 10 metres	All holdings with an area planted with fruit trees, provided that the fruit produced is entirely or mainly intended for market during the 2007 agricultural year No physical threshold	Agricultural holdings with a minimum area of 0.1 ha planted with fruit trees (at least 95% of the total area planted with fruit trees)
2. Type of survey	Area frame sampling (MAST – Marco de Áreas y Segmentos Territoriales),	Random sampling (6,500 holdings surveyed for a universe of 24,444)	Sample survey (to a stratified sample of 20,744 holdings) Face to face interviews and paper questionnaires	Sample survey based on a sample of holdings having at least 0.1 ha of cultivated area with fruit trees
3. Reference period/date	Not mentioned	1 st April 2007-31 st March 2008	1 st November 2006-31 st October 2007)	1 st October 2006 – 30 th September 2007
4. Survey date	February-December 2007	January- June 2002	October 2007-June 2008 Simultaneously with FSS 2007	October 2007 – March 2008
5. Survey characteristics				
5.1 Based on Directive				
5.1.1 Orchard area considered	Net area (calculated from gross area surveyed); including (pro-rata) areas of associated plantations. Trees in rows and isolated trees are not covered	Net area	Net area; including areas utilised for the agricultural machinery, excluded areas with windbreak plans or with border wooded crops or with walk paths	Net area
5.1.2 Varieties	Pre-selected list of major varieties, plus "others"	Pre-selected list of major varieties, plus "others"	Exhaustive list from Commission Decision	Pre-selected list of the major varieties for each species of fruit, plus an 'other' group
5.1.3 Age	The actual year of planting	The actual year of planting (autumn or spring)	The actual year of planting or grafting	Calculated from the time of their planting in the orchard

	SPAIN	FRANCE	ITALY	CYPRUS
5.1.4 Density	Calculated on the basis of tree spacing in and between rows	Calculated on the basis of tree spacing in and between rows giving the number of trees per ha	Calculated on the basis of number of plants and planted area	Calculated on the basis of the area and the number of trees per 0.1 ha
5.2 Others	Not mentioned	Volume of the production, trade circuits, Technical management of the plantations, permanent/temporary labour force, storage capacity, agricultural practices (irrigation, plant protection products, etc.)	Not mentioned However as the survey was carried out simultaneously with the FSS it would be possible to cross orchard areas with the others characteristics of the holdings	No
5.3 Accuracy	Not mentioned	Thresholds respected with the exception of citrus fruit trees	Estimated regional accuracy of 5%	Not mentioned

	LATVIA	LITHUANIA	LUXEMBOURG	HUNGARY
1. Coverage				
1.1 Species surveyed				
1.1.1 Based on Directive	Apple and pear trees (dessert varieties)	Apple and pear trees (dessert varieties)	Apple and pear trees (dessert varieties)	Apple and pear (dessert varieties), peach and apricot trees
1.1.2 Others	Not mentioned	Not mentioned	Not mentioned	None
1.2 Holdings (minimum threshold of orchards)	Members of Latvian Fruit Growers Ass. (production for sale) and all holdings with at least 100 are of orchard producing apples and/or pears for sale	"Holdings with an area planted with dessert apple trees and dessert pear trees, provided that the fruit produced is entirely or mainly intended for the market"	Holdings with at least 15 are of fruit trees of the defined species producing fruit for sale.	"Plantation (orchard) which is an area of at least 1500 m ² planted with the same fruit species in a continuous pattern and where the spacing is determined by taking into account the given fruit species/variety
2. Type of survey	Complete enumeration (face to face interview or by post and/or telephone)	Complete census (face to face interview, 157 holdings)	Not mentioned	Random sampling (face to face interview, more than 12 thousand orchards in almost 750 municipalities, with cadastre maps)
3. Reference period/date	Not mentioned	1 st June 2007	Not mentioned	31 st May 2007
4. Survey date	Not mentioned	1 st to 29 th June 2007	During 2007	1 st June to 15 th October 2007
5. Survey characteristics				
5.1 Based on Directive				
5.1.1 Orchard area considered	Net area on regular plantation (isolated trees not included)	Net area, i.e. the area solely occupied by trees without windbreaks, driving paths of quarters	Net planted area	Net planted area
5.1.2 Varieties	All varieties with more than 3% of the total area (5 apple and 5 pear trees of local varieties)	Pre-selected list of major varieties (19 apple and 6 pear local), plus "others"	Pre-selected list of major varieties, plus "others"	Pre-selected list of major varieties, plus "others"
5.1.3 Age	Number of trees by age classes	Actual year of planting	Actual year of planting (autumn or spring)	Actual year of planting (autumn or spring)
5.1.4 Density	Calculated on the base of area and number of trees	Calculated on the base of area and number of trees	In accordance with the Commission Decision	In accordance with the Commission Decision

	LATVIA	LITHUANIA	LUXEMBOURG	HUNGARY
5.2 Others	No	Number of farms with apple and/or pear trees As the survey was carried out simultaneously with the FSS it would be possible to cross orchard areas with the others characteristics of the holdings	Not mentioned	Productiveness and kilter of the orchard
5.3 Accuracy	Not mentioned	Census, coherence tests	Not mentioned	The relative standard error is less than 2 % at 68.3% confidential level

	MALTA	NETHERLANDS	AUSTRIA	POLAND
1. Coverage				
1.1 Species surveyed				
1.1.1 Based on Directive	Peach trees	Apple and pear trees (dessert varieties)	Apple and pear trees (dessert varieties), peach, nectarine and apricot (dessert varieties) trees	Apple and pear (dessert varieties), peach and apricot trees
1.1.2 Others	None	Not mentioned	Berry, elderberry, nut, cherry and plum trees	Plum, sour and sweet cherry and walnut trees and apple trees by type of rootstock (dwarf, semi-dwarf and hard-growing) and a comprehensive number of fruit bushes and of berry plantations
1.2 Holdings (minimum threshold of orchards)	No thresholds were used and the entire population on the agricultural register were interviewed	The minimum size is 3 Dutch Size Units (NGE). 1 NGE corresponds to a SGM of 1400 euro. 3 NGE corresponds to about 0.4 ha of pear trees or to about 0.6 ha apple trees.	Holdings with at least 15 are of fruit trees of the defined species producing fruit for sale. Exclusives berries holding with at least 10 are (not covered by the orchard directive)	Holdings which are producing fruit entirely or mainly intended for the market. The surveyed population were all private farms possessing orchard (15,000 farms i.e. more than 5% of whole population)
2. Type of survey	Random sampling by farm type, economic size and region (1.332 agricultural holdings, response 88%). By telephone for holdings with an economic size class three and below (>0-<6 ESU) and face to face interview for holdings with an economic size four and above (>6ESU)	Exhaustive annual farm structure census by postal mail (response 98%) for the total areas of apples and pears. A survey by postal mail (covering 88% of the area of apples and pears, response 42%) for the details on variety, planting density and planting year.	Exhaustive survey.	Random sampling survey of about 15,000 farms with all farms with more than 10 ha of orchard were all included in the sample Face to face interviews for private farms and by post and telephone for cooperative farms and companies
3. Reference period/date	1 st September 2007	Not mentioned	1 June 2007	30 th June
4. Survey date	September - November 2007	December 2007	May 2007-September 2007.	October 2007
5. Survey characteristics				
5.1 Based on Directive				
5.1.1 Orchard area considered	Not applicable	Net planted area. Mixed cropping with apples and pears is negligible in the Netherlands.	Net orchard area calculated by multiplying number of trees and trees distance.	Net area, i.e. the area occupied by trees without paths
5.1.2 Varieties	Not applicable	Pre-selected list of major varieties, plus "others"	Exhaustive coverage of varieties.	Pre-selected list of major varieties, plus "others"

	MALTA	NETHERLANDS	AUSTRIA	POLAND
5.1.3 Age	Not applicable	The farmers were asked to give the area by variety divided into the five age-classes. (the age class 0-4 means that the area was planted between the summer of 2002 and 2007; and so on)	Actual year of planting (autumn or spring)	Determined by number of years since planting to the orchard on permanent place
5.1.4 Density	Not applicable	The density was calculated by Statistics Netherlands	Number of trees per hectare in the plantation and trees separation.	Based on the number of trees per hectare
5.2 Others	Not applicable	Not mentioned	Not mentioned	The scope of the survey was extended by characteristics for the needs of national users; other species of fruit trees, bushes, berry plantations and nurseries and information about holder and holding were also object of survey, like irrigated orchards and capacity of store houses and cold stores.
5.3 Accuracy	Not mentioned	Not mentioned	Not mentioned	Not mentioned

	PORTUGAL	ROMANIA	SLOVENIA	SLOVAKIA
1. Coverage				
1.1 Species surveyed				
1.1.1 Based on Directive	Apple and pear (dessert varieties), peach, apricot, orange, small citrus fruit and lemon trees	Apple and pear (dessert varieties), peach and apricot trees	Apple and pear (dessert varieties), peach and apricot trees	Apple and pear (dessert varieties), peach and apricot trees
1.1.2 Others	Cherry trees and kiwi plants	Sweet cherry and cherry and plum trees and walnut and other trees (hazelnut, chestnut and quince trees)	Berries	Not mentioned
1.2 Holdings (minimum threshold of orchards)	Holdings with at least 15 are of fruit trees of the defined species producing fruit for sale	All agricultural holdings having utilized agriculture areas with fruit tree plantations	All agricultural holdings producing fruit for sale in intensive orchards (fruit tree plantations) and/or have at least 20 are of fruit tree plantations or 10 are of berries	Not mentioned
2. Type of survey	Random sampling (6,500 holdings, around 16% of the universe)	Sampling survey on crop production, based on a sample of 80,000 agricultural holdings (face to face interview). For fruit trees survey it was used a sample of circa 8,000 holdings	Census, complete enumeration	Complete enumeration by mail
3. Reference period/date	Survey date (April-May 2007) and crop year (2005/06)	1 st October 2006 – 30 th September 2007	1 st June 2007	Spring 2007
4. Survey date	April-May 2002	1 st – 30 th November 2007	12 th October 2007	May 2007
5. Survey characteristics				
5.1 Based on Directive				
5.1.1 Orchard area considered	Net area, including pro-rata areas of mixed plantations	Net area	Net and gross area by species, net area by varieties	Not mentioned
5.1.2 Varieties	Pre-selected list of as many varieties as possible, plus "others"	Not mentioned	Exhaustive coverage of varieties settled at a later stage (determination of category 'other varieties')	Pre-selected list of varieties, plus "others"
5.1.3 Age	Actual year of planting (autumn or spring)	Not collected	The actual year of planting	The actual year of planting

	PORTUGAL	ROMANIA	SLOVENIA	SLOVAKIA
5.1.4 Density	Calculation based on planted area	Collected only for young plantations	Calculation based on planted area and the number of tree	Not mentioned
5.2 Others	Irrigated area, the production, the production system and some production techniques	Average production	Not mentioned	Not mentioned
5.3 Accuracy	The relative standard error is less than 2 % at 68% confidential level	Not mentioned	Census	Census

	FINLAND	SWEDEN	UNITED KINGDOM
1. Coverage			
1.1 Species surveyed			
1.1.1 Based on Directive	Apple trees (dessert varieties)	Apple and pear trees (dessert varieties)	Apple and pear trees (dessert varieties)
1.1.2 Others	Not mentioned	None	Not mentioned
1.2 Holdings (minimum threshold of orchards)	Holdings with an area of at least 0,5 ha planted with apple trees intended for sale	All holdings with plantations of apple and/or pear trees at a minimum 0.25 ha	Orchard areas with at least 30 are of fruit trees producing fruit for sale
2. Type of survey	Complete enumeration by post complemented by phone if necessary	Complete enumeration by post (369 holdings) complemented with phone calls	Complete enumeration
3. Reference period/date	Not mentioned	31 th December 2007	Not mentioned
4. Survey date	March to May 2008	11 th January to 26 th Mach 2008	1 st February 2007
5. Survey characteristics			
5.1 Based on Directive			
5.1.1 Orchard area considered	Net area	Net area	Planted area
5.1.2 Varieties	Pre-selected list of major varieties, plus "others"	Pre-selected list of major varieties, plus "others"	Pre-selected list of major varieties, plus "others"
5.1.3 Age	The actual year of planting	The actual year of planting or grafting is recorded	Age brands
5.1.4 Density	Calculation based on planted area and the number of trees	Number of trees per hectare calculated from the number in the field	Number of trees per hectare calculated from the number in the field
5.2 Others	Number of trees with "moderate" vigour	Not mentioned	Not mentioned
5.3 Accuracy	Census	Census	Census