Workshop on
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Theme 4 – Crops
Technical Session 8

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Outline

• Background
• Importance of the theme
• Main concepts and definitions
• Items: type, reference periods, concepts and special characteristics
• Country experiences
Background

Four (4) frame items:

0413 - presence of nurseries
0415 - presence of cropped land under protective cover
0401 - types of temporary crops on holding
0405 - types of permanent crops on holding and whether they are in compact plantation.

Four (4) essential items:

0402 - area of temporary crops harvested
0406 - area of productive and non-productive permanent crops in compact plantations
0407 - number of permanent crop trees in scattered plantings
0411 - use of each type of fertilizer
Importance of the theme

- Defining agriculture according to ISIC*
  (Cultivation of crops and raising of livestock).

- Paramount for understanding agriculture in a country
  (structural data on types of crops, area, their spatial distribution,
  their end-use and seasonality)

- Extensive and intensive use of data about crops
  (Decision-makers, researchers and other stakeholders)

*International Standard Industrial Classification of all Economic Activities (ISIC Rev. 4)
Main concepts and definitions

<table>
<thead>
<tr>
<th>Temporary crops:</th>
<th>crops with less than one-year growing cycle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent crops:</td>
<td>crops with a more than one-year growing cycle.</td>
</tr>
<tr>
<td>Successive crops:</td>
<td>temporary crops that grow more than once on the same land in the same agricultural year.</td>
</tr>
<tr>
<td>Inter-planted crop:</td>
<td>temporary crop planted between rows of another crop.</td>
</tr>
<tr>
<td>Mixed crops:</td>
<td>more than one temporary crop is grown unsystematically in a plot or field.</td>
</tr>
</tbody>
</table>
**Main concepts and definitions**

<table>
<thead>
<tr>
<th>Permanent crops in compact plantation:</th>
<th>plants, trees and shrubs planted in a regular and systematic manner.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scattered plants:</strong></td>
<td>permanent crops planted in such a manner that it is not possible to estimate the area.</td>
</tr>
<tr>
<td><strong>Associate crop:</strong></td>
<td>a temporary crop grown in a compact plantation of permanent crops</td>
</tr>
</tbody>
</table>
# Theme 4 Crops, comprises 16 items:

<table>
<thead>
<tr>
<th>Temporary crops (4)</th>
<th>Permanent crops (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>0401</strong> - Types of temporary crops on holding;</td>
<td><strong>0405</strong> - Types of permanent crops on holding and whether in compact plantations;</td>
</tr>
<tr>
<td><strong>0402</strong> - Area of temporary crops harvested <em>(for each temporary crop type)</em>;</td>
<td><strong>0406</strong> - Area of productive and non-productive permanent crops in compact plantations <em>(for each permanent crop type)</em>;</td>
</tr>
<tr>
<td><strong>0403</strong> - Area of temporary crops harvested according to end use;</td>
<td><strong>0407</strong> - Number of permanent crop trees in scattering planting <em>(for each tree crop)</em>;</td>
</tr>
<tr>
<td><strong>0404</strong> - Production of temporary crops harvested;</td>
<td><strong>0408</strong> - Area of productive permanent crops in compact plantations according to end use <em>(for each selected permanent crop type)</em>;</td>
</tr>
<tr>
<td></td>
<td><strong>0409</strong> - Production of permanent crops <em>(for each selected permanent crop type)</em>;</td>
</tr>
</tbody>
</table>
**For the holding (7)**

0410 - Area of land used to grow temporary crops as a secondary land use (for the holding);

0411 - Use of each type of fertilizer (for the holding);

0412 - Area fertilized for each type of fertilizer and major crop type;

0413 - **Presence of nurseries** (for the holding)

0414 – Area of nurseries

0415 - **Presence of cropped land under protective cover** (for the holding);

0416 - Area of cropped land under protective cover (for the holding)
**Item 0401: Types of temporary crops on holding**

**Type:** Frame item.

**Reference period:** Census reference year.

**Concept:** Whether the holding grew each specific type of crop. Area data would be collected as item 0402.

**Caveat:** In a census conducted on sample enumeration basis data on minor crops are likely to be less reliable and so only the major crops should be canvassed.

**Notes:**
- The list of crops can be expanded or abridged
- More details can be added, such as: season, land type, variety, end uses, etc.
**Item 0402: Area of temporary crops harvested** (for each temporary crop type)

**Type:** Essential item.

**Reference period:** Census reference year.

**Concept:** Area harvested refers to the total area from which the crop is gathered. Thus, area destroyed for any cause (*drought, flooding, pest attack, etc.*) is excluded. If the crop was damaged but not destroyed is included in the area harvested.

**Notes:**

- **Area harvested**
  - covers crops grown to maturity;
  - includes all crop harvested regardless end-use;

- If a crop is planted in one agricultural year and harvested in the next agricultural year, the recommended approach is to take the area harvested during the census reference year with special exceptions made for end-of-year crops.
Item 0402: Area of temporary crops harvested (for each temporary crop type) cont’d

- **Successive crops** - the area should be reported for each crop each time the land is sown during the year.

- **Inter-planted crops** - the area of inter-planted plot or field is assigned to individual area of crops in proportion to the area occupied by each crop.

- **Mixed** crops - some estimation is needed. The idea is to assign areas to individual crops on the basis of “What area the crop would have occupied if it were grown in pure stand?”.

- **Associate crops** (temporary and permanent crops in compact plantations together) the area of temporary crop is, usually, estimated by apportioning the land in a suitable manner.

- When temporary crops are grown scattered around the holding it is difficult to estimate the area unless crops are grown in some sort of systematic manner.
Item 0403: Area of temporary crops harvested according to end-use (for each selected crop type)

**Type:** Additional item.

**Reference period:** Census reference year.

**Concept:** End use - purpose of the crop.

**Types of end-use suggested:**
- Food for human consumption;
- Feed for animals;
- Biofuels;
- Other uses.

A single crop may have more than one end-use.

*i.e. maize being grown partly*
Item 0404: Production of temporary crops harvested (for each selected crop type)

Type: Additional item.

Reference period: Census reference year.

Concept: Production refers to the actual quantity of produce after drying and processing, ready for sale or consumption and after deducting pre-harvest, harvest and post-harvest losses.

Notes:

- Countries should select the crops according to their needs.
- Production data in an agricultural census are useful as benchmarks for current crop production statistics.
Item 0405: Types of permanent crops on the holding and whether in compact plantation

**Type:** Frame item

**Reference period:** Census reference day

**Concept:** This item refers to whether each specific permanent crop is present on holding and which crops are grown in compact plantation.

**Note:** Countries should expand or abridge the crop list as appropriate taking into account their circumstances and data needs.
Item 0406: Area of productive and non-productive permanent crops in compact plantations (for each permanent crop type)

Type: Essential item
Reference period: Census reference day
Concept: This item refers to the area of the crop at a single point of time. (does not include nurseries)

Notes:
- Permanent crops of productive age - already bearing fruit or otherwise productive;
- Two or more permanent crops grown together in a compact plantation should be treated as in the previous case of temporary crops inter-planted or mixed: area is assigned to a particular crop proportionately to the area occupied by each crop;
- When permanent crops in compact plantation are in association with temporary crops (i.e. “growing in the compact plantation of permanent crops”), the area assigned to permanent crops usually is the whole area of the compact plantation.
Item 0407: Number of crops trees in scattered planting (for each tree crop)

Type: essential item.

Reference period: census reference day.

Concept: number of trees crops in scattered planting at a single point of time (nurseries are excluded).

Note: Plants scattered around the holding.
**Item 0408: Area of productive permanent crops in compact plantations according to end use** (for each selected permanent crop type)

**Type:** Additional item.

**Reference period:** Census reference day.

**Concept:** End use - purpose of the crop. Countries should collect these data specific to their national conditions and data requirements focusing on those crops with multiple uses.

**Types of end-use suggested:**
- Food for human consumption;
- Feed for animals;
- Biofuels;
- Other uses.

A single permanent crop may have multiple uses.

- human consumption
- fodder crop
- bio fuels
**Item 0409: Production of permanent crops**
(for each selected permanent crop type)

**Type:** Additional item.

**Reference period:** Census reference year.

**Concept:** Production - actual quantity of produce ready for sale or consumption and after deducting the losses. *(pre-harvest, harvest and post-harvest losses)*

**Notes:**
- Countries should select the crops according to their needs.
- Production data in an agricultural census are useful as benchmarks for current crop production statistics.
Item 0410: Area of land used to grow temporary crops as a secondary land use (for the holding)

**Type:** Additional item.

**Reference period:** Census reference year.

**Concept:** temporary crops are grown on land classed as “other land uses type” and no under “land under temporary crops” in the land uses classification. It relates to area on the census reference day according to its main use during the census reference year.

**Examples:**
- Temporary crops grown in association with permanent tree crops in compact plantation. It means temporary crops planted in “land under permanent crops”
- Temporary crops planted in “forest or wooded land”.
Item 0411: Use of each type of fertilizer (for the holding)

**Type:** Essential item

**Reference period:** Census reference year.

**Concept:** Fertilizers refers to mineral or organic substances, natural or manufactured, which are applied to soil, irrigation water or hydroponic medium, to supply plants with nutrients or to enhance plant growth.

**Types:**

**Fertilizers:**
- Mineral fertilizers
- Organo-mineral fertilizers
- Organic fertilizers
- Biofertilizers
- Manure

**Other organic materials** to enhance plant growth.
Item 0412: Area fertilized for each type of fertilizer and major crop type (for the holding)

**Type:** Additional item.

**Reference period:** Census reference year.

**Concept:** This item refers to the *area* of crops fertilized.

For temporary crops - the part of the area harvested to which fertilizers were applied some time during the census reference year.

For permanent crops - the part of the current area of permanent crops (i.e. the area with permanent crops at the census reference day) fertilized at some time during the census reference year.

**Caveat:** This item relates to *crops fertilized not to the land fertilized*, therefore if fertilizer is used in two crops grown successively on the same land in two seasons, the fertilized area should be counted twice.

**Note:** Countries will wish to limit this item to the most important national crops.
Item 0413: Presence of nurseries (for the holding)
Item 0414: Area of nurseries (for the holding)

Types:
0413: Frame item
0414: Additional item

Reference period: census reference year.

Concept: area where young plants, trees or vines are propagated for the purpose of transplanting.

Notes:
- Nurseries do not include seedfields.
- Plants in a nursery are not harvested (so its area is not included in the area of temporary crops or permanent crops)
- 0414 - the area of land used for nurseries and no the total area of the nursery crops (if piece of land was used during the census reference year for nurseries of two crops should be counted only once)
Item 0415 and Item 0416: Presence and area of cropped land under protective cover (for the holding)

**Types:**
- 0415: Frame item.
- 0416: Additional item

**Reference period:** census reference year.

**Concept:** Cropped land under protective cover is land under permanent structure with a roof of glass, plastic or other material ("greenhouse") used for protecting crops against the weather, pest or diseases.

**Notes:**
- Temporary devices for short-term protection and netting to protect against insect and animals should not be included;
- 0416 - the area of land used for growing crops under protective cover
Part 5 - on crops:

- Presence on holding;
- Area sown and total production of the following cereals for grain: wheat, oat, barley, sorghum, maize, rice, triticale and all other cereals together;
- Area and production of sugar cane, cotton and essential oil crops;
- Area and production of other crops.

Part 6 - presence and area of: nurseries, cut flowers and cultivated turf.

Part 7 - area and production of vegetables for seed (potatoes and all other vegetables together).

Part 8 - area and production of vegetables for sale for human consumption.

Part 9 - special section only for grapevines.

Part 10 - other permanent tree crops: number of trees and production.
Cyprus - Agricultural Census 2010.

The questionnaire presents a table designed to collect information for main crops (area and area irrigated) and secondary or successive crop (only area). It covers:

**Arable crops:**
- Cereals for grain or production of renewable energy, dry pulses, potatoes, beetroot, dasheen and other arable crops together;
- Industrial crops (oilseed, aromatic, pharmaceutical and herbs);
- Fresh vegetables, melons and strawberries (cultivated outdoor or under protective cover);
- Flowers and ornamental plants (cultivated outdoor or under protective cover);
- Fodder crops

**Kitchen gardens;**
**Permanent crops** (in compact plantation: total area and area irrigated);
THANK YOU!