



# NIVA UC3 – FARM REGISTRY



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# UC3 GENERAL ASPECTS

# UC3 : GENERAL ASPECTS

Reference data model for an **agricultural Farm Registry**

Interfaces to exchange information (upload and query)

Store and manage data



**Where** is the farm?  
**What** does the farm produce?  
**How** does the farm produce?

# UC3 DEFINITIONS

# Reglamentation

➤ Main Concepts are regulated in:

1. **REGULATION (EU) No 1307/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Article 4**  
[REGULATION \(EU\) No 1307/2013](#)
2. **REGULATION (EU) No 1306/2013 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, Article 67**  
[REGULATION \(EU\) No 1306/2013](#)
3. **COMMISSION DELEGATED REGULATION (EU) No 640/2014, Article 2**  
[COMMISSION DELEGATED REGULATION \(EU\) No 640/2014](#)

# Definitions

## Farm Registry

- UC3 *FARM REGISTRY*: Registry of an administrative, public, and informative nature that centralizes and unifies agricultural information and allows the Administration and the farmers to query all the data about farms and their agricultural parcels, and to facilitate administrative procedures. Farm registry should be strongly linked to the future IACS and should be updated in a continuous way

## Farmer

**As REGULATION #1 (*farmer*):** a natural or legal person, or a group of natural or legal persons, regardless of the legal status granted to such group and its members by national law, whose holding is situated within the territorial scope of the Treaties, as defined in Article 52 TEU in conjunction with Articles 349 and 355 TFEU, and who exercises an agricultural activity.

- UC3 *FARMER*: person, or group of persons, who exercises an agricultural activity

## Production Unit

**As REGULATION #1 (*holding*):** all the units used for agricultural activities and managed by a farmer situated within the territory of the same Member State.

- UC3 *PRODUCTION UNIT*: set of contiguous parcels used for agricultural activities and managed by a farmer

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Definitions

## Agricultural Block

**As REGULATION #1 (*agricultural area*):** any area taken up by arable land, permanent grassland and permanent pasture, or permanent crops.

- UC3 *AGRICULTURAL BLOCK*: continuous land areas with the same land cover

## Reference Plot

**As REGULATION #3 (*reference parcel*):** a geographically delimited area retaining an unique identification as registered in the identification system for agricultural parcels referred to in Article 70 of Regulation (EU) No 1306/2013.

- UC3 *REFERENCE PLOT*: intersection between agricultural blocks and reference parcels



# Definitions

## Crop Parcel

**As REGULATION #2 (*agricultural parcel*):** a continuous area of land, declared by one farmer, which does not cover more than one single crop group; however, where a separate declaration of the use of an area within a crop group is required in the context of Regulation (EU) No 1307/2013, that specific use shall if necessary further limit the agricultural parcel; Member States may lay down additional criteria for further delimitation of an agricultural parcel.

- UC3 *CROP PARCEL*: continuous land areas with the same crop

## Crop Activity

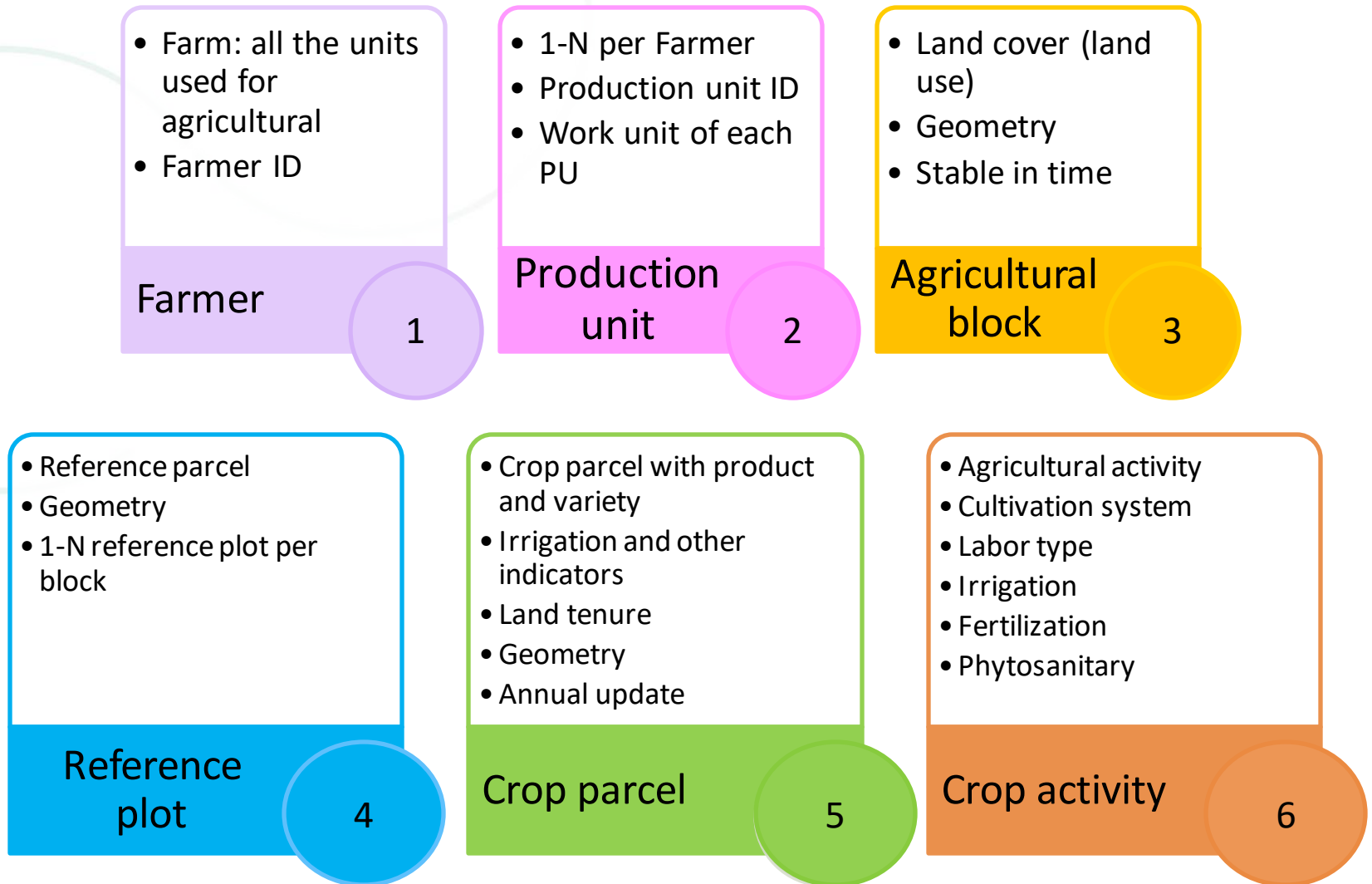
- UC3 *CROP ACTIVITY*: works, methods and actions related to a specific crop

## Crop Activity Detail

- UC3 *CROP ACTIVITY DETAIL*: detail of works, methods and actions related to a specific crop

# REFERENCE DATA MODEL

# REFERENCE DATA MODEL - Basic



# REFERENCE DATA MODEL - Basic

farmer

production\_unit

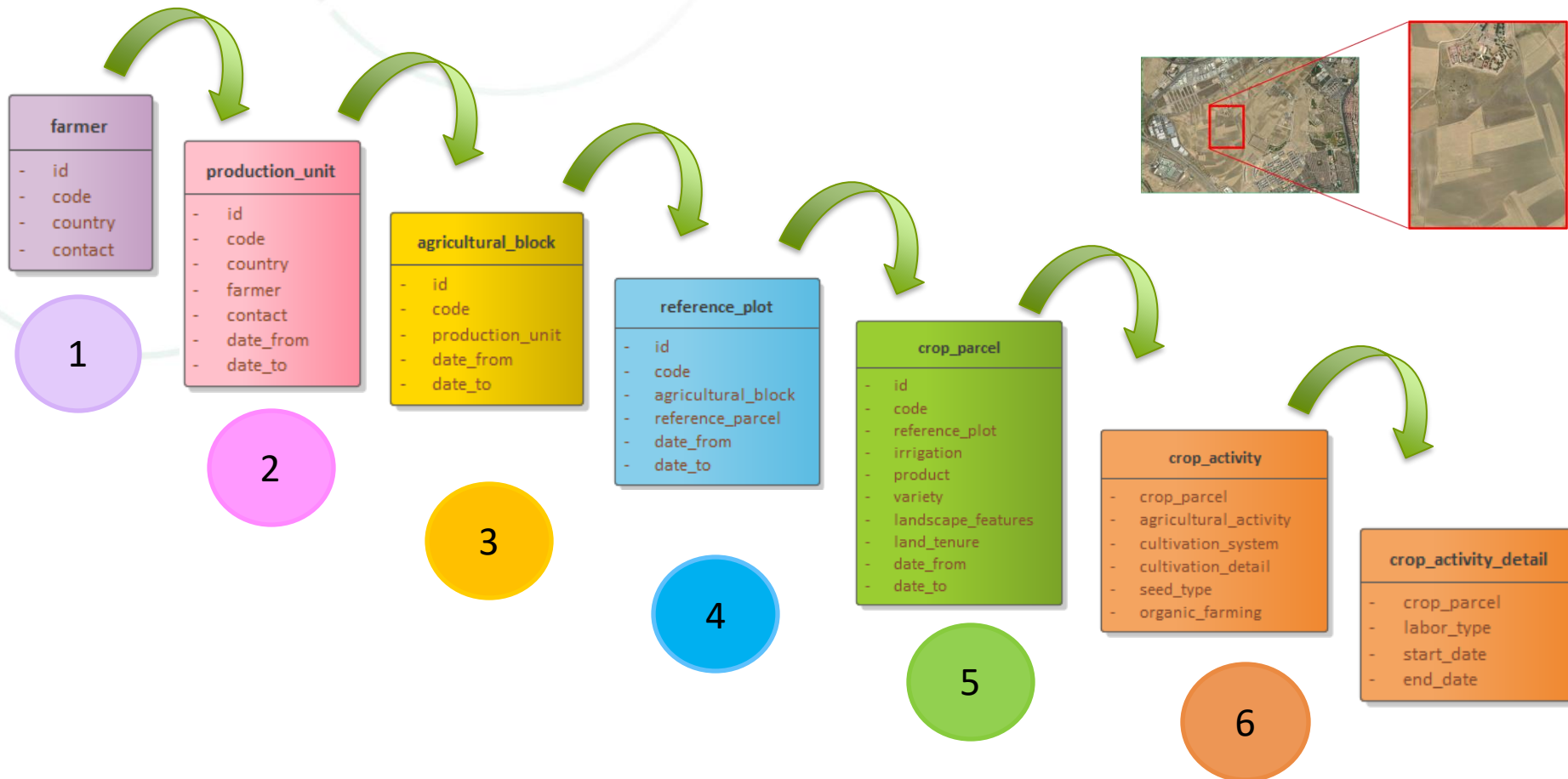
agricultural\_block

reference\_plot

crop\_parcel

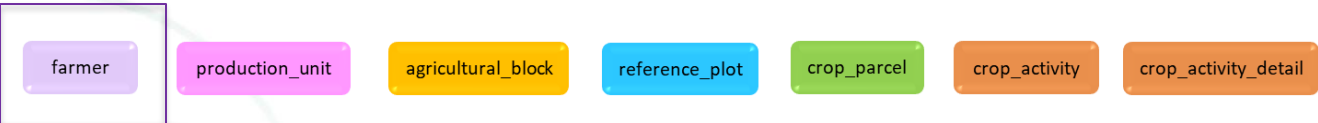
crop\_activity

crop\_activity\_detail





# REFERENCE DATA MODEL DETAIL AND CODE LISTS PROPOSED



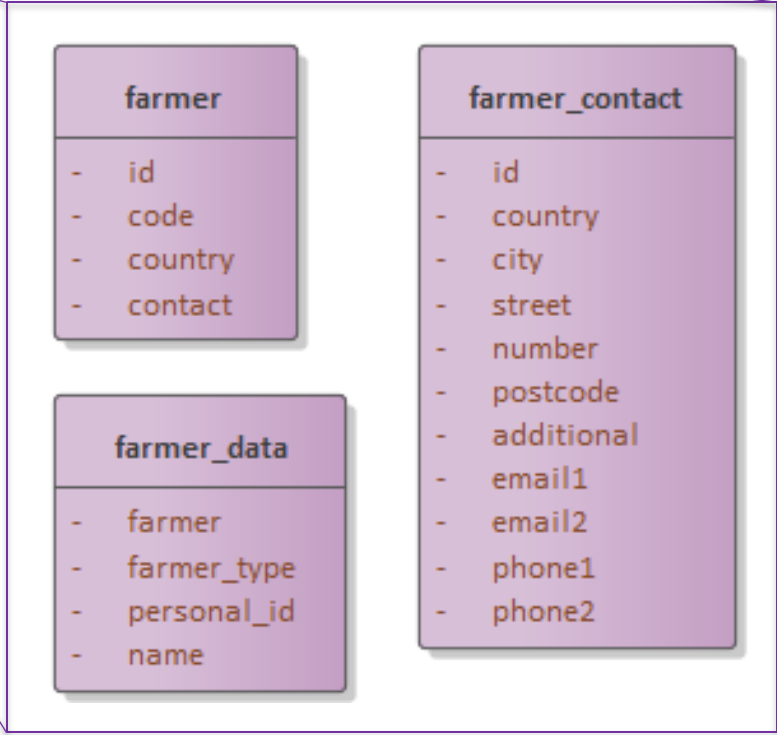
# Farmer

## Farmer Data

- Basic identification data of a farmer

## Farmer Contact

- Single contact data of a farmer



- Farmer ID code

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Farmer

- Code Lists

**farmer\_type**

Regulation: [REGULATION \(EU\) No 1307/2013](#)

UC3 proposal: Pre-loaded values

Code	Description
1	Natural Person
2	Legal Person
3	Group of Natural Persons
4	Group of Legal Persons



farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Production\_unit

## Farming type

- The type of farming of a production unit

## Workunit type

- Employees' handwork type of a production unit

production_unit
- id
- code
- country
- farmer
- contact
- date_from
- date_to

production_unit_farming_type
- production_unit
- farming_type
- date_from
- date_to

production_unit_workunit
- production_unit
- workunit_type
- awu
- date_from
- date_to



### PRODUCTION UNIT:

- Farmer ID code
- Production unit ID code
  - ✓ Country: AA + Number: XXXXXXXXXXXXX (12 positions)

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Production\_unit

- Code Lists

## Type of farming

Regulation: [Commission Regulation \(EC\) No 1242/2008](#)

Brief example of UC3 proposal: Pre-loaded values

Code	General Type of farming
151	Specialist cereals (other than rice), oilseeds and protein crops
152	Specialist rice
153	Cereals, oilseeds, protein crops and rice combined
161	Specialist root crops
162	Cereals, oilseeds, protein crops and root crops combined
163	Specialist field vegetables
164	Specialist tobacco
165	Specialist cotton
166	Various field crops combined
211	Specialist vegetables indoor
212	Specialist flowers and ornamentals indoor
...	...

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Production\_unit

- Code Lists

**Work unit**

Regulation: [Commission Regulation \(EC\) No 868/2008](#)

UC3 proposal: Pre-loaded values

Code	Description
1	Regular unpaid labour
2	Regular paid labour
3	Casual unpaid labour
4	Casual paid labour

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

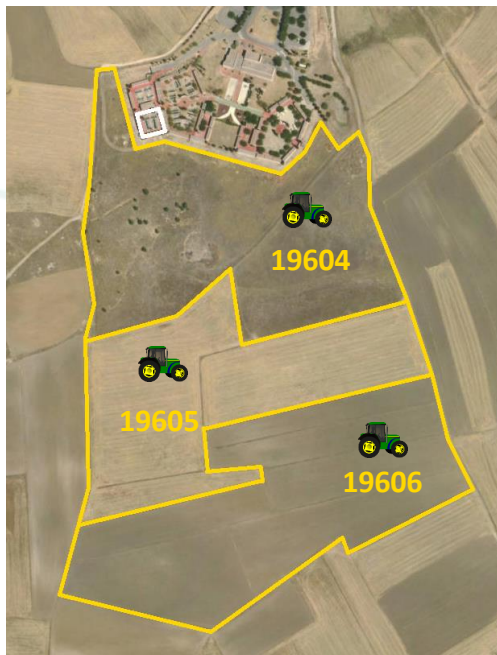
crop\_activity\_detail

# Agricultural\_block

Geometries of continuous land areas with the same land cover

## Land cover

- Land use as EU CAP Regulation



### agricultural\_block

- id
- code
- production\_unit
- date\_from
- date\_to

### agricultural\_block\_geometry

- agricultural\_block
- geometry
- surface
- date\_from
- date\_to

### agricultural\_block\_land\_cover

- agricultural\_block
- land\_cover
- date\_from
- date\_to

→ Surface: hectares in decimal format, with 2 decimals

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Agricultural\_block

- Code Lists

## Land cover

Regulation: [Regulation \(EU\) No 1307/2013](#)

UC3 proposal: Pre-loaded values

Code	Description
1	Arable Land
2	Permanent grassland
3	Permanent crops
4	Other non agricultural areas

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Reference\_plot

Created by the intersection between agricultural block and reference parcels



## reference\_plot

- id
- code
- agricultural\_block
- reference\_parcel
- date\_from
- date\_to

## reference\_plot\_geometry

- reference\_plot
- geometry
- surface
- date\_from
- date\_to

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_parcel

Each reference plot contains as many crop parcels as geometries of different crops.

## Product

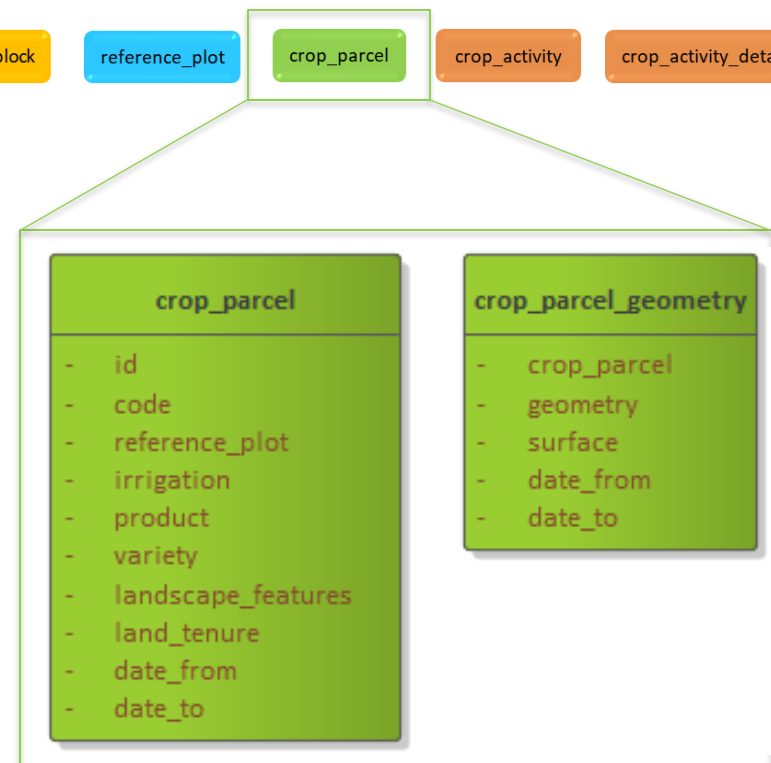
- Generic denomination of an agricultural product based on its botanical species

## Variety

- Taxonomic rank below that of species and subspecies, but above that of form.

## Land tenure

- Tenure regime of a crop parcel



farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_parcel

- Code Lists

**Product**

Brief example of UC3 proposal: Pre-loaded values

Code	Description	Botanical Name
B11	Common wheat	<i>Triticum aestivum</i>
B12	Durum wheat	<i>Triticum durum</i>
B13	Barley	<i>Hordeum vulgare</i>
B14	Rye	<i>Secale cereale</i>
B15	Oats	<i>Avena sativa</i>
B16	Maize	<i>Zea mays</i>
B17	Triticale	<i>Triticum aestivum</i>
...	...	...
B21	Potatoes	<i>Solanum tuberosum</i>
...	...	...



farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_parcel

- Code Lists

## Variety

Load by each Member State  
Brief example:

Code	Description	Code product	Country
0	NO VARIETY	B11	ES
1	BLAT MORAT	B11	ES
2	BLAT BARBA	B11	ES
3	BLAT XEIXA	B11	ES
4	ABDERRAMAN	B11	ES
5	ABENTAL	B11	ES
6	ACAPULCO	B11	ES
...	...	...	...

## Product

Code	Description	Botanical Name
B11	Common wheat	<i>Triticum aestivum</i>
B12	Durum wheat	<i>Triticum durum</i>
B13	Barley	<i>Hordeum vulgare</i>
...	...	...

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_parcel

- Code Lists

## Land tenure

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Property
2	Lease
3	Sharecropping
4	Communal land allocation
5	Usufruct
6	Communal sharecropping

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

## Crop\_activity

## Agricultural Activity

- Identification of agricultural activity on agricultural areas naturally kept in a state suitable for grazing or cultivation

## Cultivation system

- Crop cultivation system

## Cultivation detail

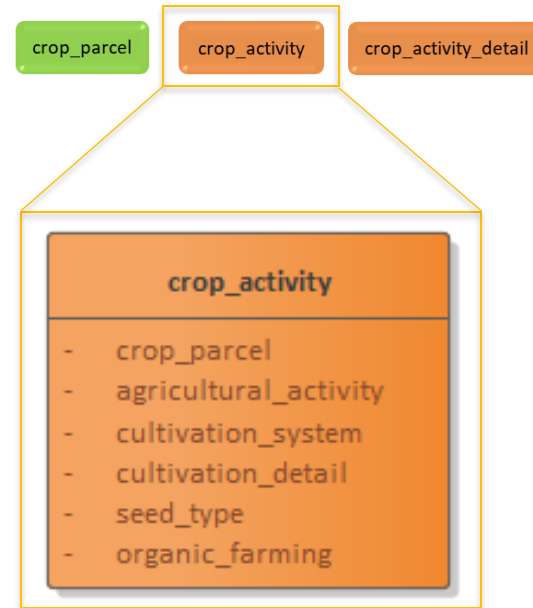
- Crop cultivation system detail

## Seed type

- Type of seed used by the farmer

## Organic farming

- Type of organic certification



farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity

- Code Lists

## Cultivation system

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Fresh air
2	Accesible cover
3	Not accesible cover

## Cultivation detail

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	In water
2	In soil
3	Artificial substrate
4	Pot crops
5	Tray crops
6	On trellises
7	In row

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity

- Code Lists

## Seed type

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Certificated
2	Re-used
3	Treated

## Organic farming

UC3 proposal: Pre-loaded values

Code	Description
1	Non-certified
2	Certified
3	In conversion

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity\_detail

## Labor type

Labor type

- The type of labor carried out

## Irrigation type

- Type of irrigation used to produce a crop

Irrigation type  
Water origin

## Phytosanitary

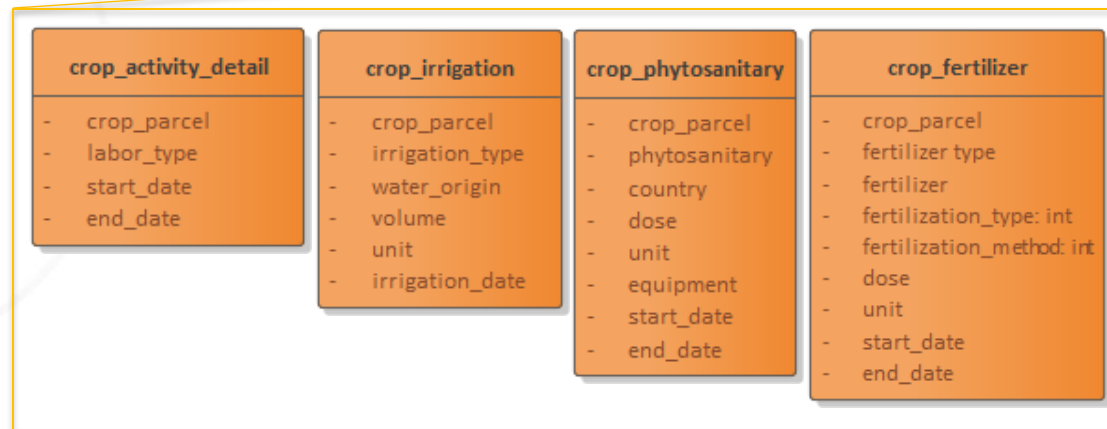
- Phytosanitaries that can be used by the farmer when producing a crop

Phytosanitary  
Equipment

## Fertilizer

- Kind of fertilizers that can be used by the farmer when producing a crop

Fertilizer type  
Fertilizer  
Fertilization type  
Fertilization method



farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity\_detail

- Code Lists

## Labor type

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Sowing
2	Harvest
3	Fruit picking
4	Pruning
5	Tillage
6	Maintenance of permanent crops
7	Sepherding
8	Weeding / Clear
9	Mowing for maintenance
10	Drainage maintenance
11	Mowing for grass production

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity\_detail

- Code Lists

## Irrigation type

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Sprinkler
2	Drip
3	Surface flow
4	Inundation

## Water origin

UC3 proposal: Pre-loaded values

Code	Description
1	Surface water
2	Ground water



farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity\_detail

- Code Lists

## Phytosanitary

Load by each  
Member State  
Brief Example:

Code	Name	Formulation	%	Country
11179	MICROTHIOL SPECIAL DISPERS	SULPHUR 80% [WG] W/W	80	ES
11231	COBRE NORDOX 50	CUPROUS OXIDE 50% (EXPR. IN CU) [WP] W/W	50	ES
11312	DECCOSOL-MF	2-PHENYLPHENOL 13% (EXPR. IN OPP) [SL] W/V	13	ES
...	...	...	...	...

## Phytosanitary equipment

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Hydraulic sprayer/folding arms sprayer
2	Atomizer or hydro-pneumatic sprayer
3	Mistblowers
4	Centrifugal air blast
5	Soil injection equipment
6	Dusters
7	Equipment placed inside greenhouses or other covers
8	Equipment placed on aerial craft for aerial spraying

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity\_detail

- Code Lists

## Fertilizer type

UC3 proposal: Pre-loaded values

## Fertilizer

Brief example of UC3 proposal: Pre-loaded values

Code	Description
1	Organic fertilizer
2	Organo-mineral fertilizer
3	Inorganic fertilizer
4	Liming material
5	Organic soil improver
6	Inorganic soil improver
7	Growing medium
8	Nitrification inhibitor
9	Denitrification inhibitor
10	Urease inhibitor
11	Microbial plant biostimulant
12	Non-microbial plant biostimulant
13	Manure
14	Sludge
15	Wasterecovery (R10 operation)
16	Urban compost



Code	Code fertilizer type	Description
1	1	Organic nitrogen fertilizer of animal origin
2	1	Organic nitrogen fertilizer of vegetable origin
...	...	...
10	2	Organo-mineral nitrogen fertilizer
...	...	...

Regulation: [Regulation \(EU\) 2019/1009](#)

farmer

production\_unit

agricultural\_block

reference\_plot

crop\_parcel

crop\_activity

crop\_activity\_detail

# Crop\_activity\_detail

- Code Lists

## Fertilization type

UC3 proposal: Pre-loaded values

Code	Description
1	Base dressing
2	Top dressing

## Fertilization method

UC3 proposal: Pre-loaded values

Code	Description
0	Other
1	Fertigation

# Other code lists

## Country

Regulation: [Horizon 2020](#)  
Regulation. [Associated Countries](#)

Code	Description
AT	Austria
BE	Belgium
BG	Bulgaria
HR	Croatia
CY	Cyprus
CZ	Czechia
DK	Denmark
EE	Estonia
FI	Finland
FR	France
DE	Germany

Code	Description
EL	Greece
HU	Hungary
IE	Ireland
IL	Israel
IT	Italy
LV	Latvia
LT	Lithuania
LU	Luxembourg
MT	Malta
NL	Netherlands

Code	Description
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SK	Slovakia
SI	Slovenia
ES	Spain
SE	Sweden
CH	Switzerland
UK	United Kingdom

## Unit

UC3 proposal: Pre-loaded values

Code	Description	
1	l/ha	Litre/Hectare
2	kg/ha	Kilogram/Hectare
3	m3/ha	Cubic meter/Hectare
4	l/m2	Litre/Square meter

TESTING

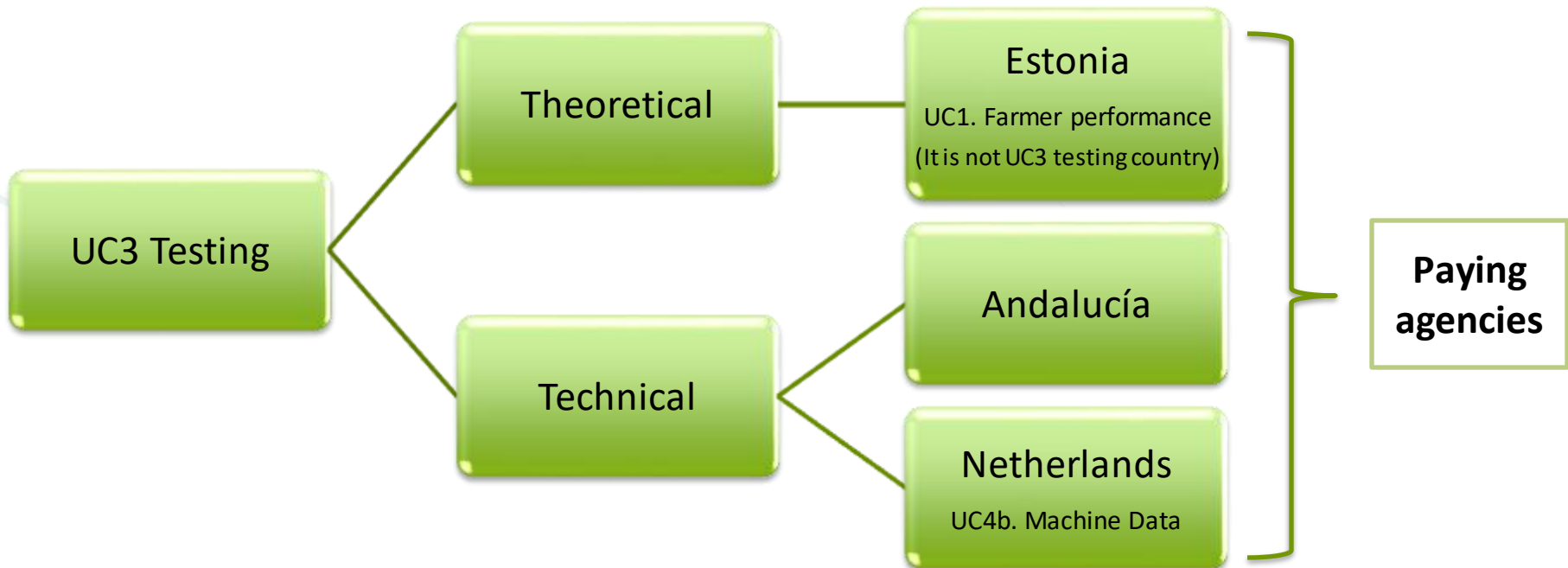
# Testing by paying agencies

DATA MODEL



WEB SERVICES

*UC3 – Farm Registry*





# UC3- NEW MILESTONES



# Next milestones

- ✓ Consolidated Version of the Data Model **M17** (Oct 2020)
- ✓ Interfaces query and update **M18** (Nov 2020)
- ✓ Testing **before M19** (Dec 2020) by:
  - Andalucía
  - Netherlands
  - Estonia

# THANK YOU!



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