Magic

Marginal lands for Growing Industrial Crops

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D9.3: Data management and support pack (1st version)

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Type			**Dissemination Level**		
R	Document, report	☐	**PU**	Public	☐
DEM	Demonstrator, pilot, prototype	☐	**CO**	Confidential, only for members of the consortium (including the Commission Services)	☒
DEC	Websites, patent fillings, videos, etc.	☐			
OTHER		☐			

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Aim of the Data Management and Support Plan

This deliverable aims to develop the data management and support plan for MAGIC. The main aims of the data management plan are:

- To describe and organise how the research data will be collected, processed and generated within the project
- To set the methodology and the standards that will be adopted
- To set rules whether and how this data will be shared and/or made open and
- To decide how this data will be curated and preserved during and after the project

The DMP ensures that MAGIC activities are compliant with the **H2020 Open Access** policy and the recommendations of the **Open Research Data pilot**. The DMP will also explain how the project will be connected with the **EIP-Agri**, as well as the European thematic aggregator of agINFRA in order to disseminate its research outcomes to the relevant European and global channels (such as OpenAIRE, CIARD, Global Open Data for Agriculture and Nutrition and Big Data Europe). Under this task an Open Access Support Pack will be developed translating the generic H2020 requirements and recommendations into specific guidelines and advice that can be applied in the project. The application of the DMP by all MAGIC partners will be monitored under this task.

Progress obtain so far in terms of DMP

Soon after the beginning of the project it was realised its complexity (high number of partners and huge amount of data that should be management) and the difficulty to develop a data management plan since in GA it was sufficient described and planned. In the project three tools are being developed namely MAGIC CROPS (database), MAGIC MAPS & MAGIC DSS (decision support system) that required an excellent collaboration among the partners and the use of a number of existing tools (developed in previous projects). Moreover, a huge number of long-term field trials for several industrial crops growing on marginal lands (WP4) have been included in the project that will provide data in the project tools (WP1, WP2) as well as to supply chains (WP5 & WP6). Apart from the long-term field trials, a high number of new field trials have been established in several sites in Europe.

During the first year of the project emphasis had been given on how both *the tools* and *the trials* to run smoothly. In the 2nd technical meeting a long discussion had been done on how this should be organised in order no delays to be obtained but no final decisions had been made. This issue had been discussed thoroughly in the 3rd technical meeting and this time the set of a clear DMP had been overemphasised. It was agreed this issue to be finalized soon after the submission of the first periodic period (M22) and to ask (in the first project amendment) one more deliverable to be added in the grant agreement in which the final DMP will be uploaded. During the 3rd project meeting it was decided how the data from the long-term data will be collected and how will be presented. UHOH in collaboration with CRES presented an excel file with the data that needed to be collected and ask for the partners' approval. It was decided the partners working on this task to organise the work in teams per crop and each team to collect and evaluate the relevant data and to prepare relevant publications.

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Another issue that will be solved by month 24 is how the data that is needed from WPs 5, 6, 7 & 8 will be collected. It was agreed (in the 3rd technical meeting) the WPs leaders of WP5, 6, 7 & 8 to prepare, soon after the 1st periodic report, excel files with the needed data and to distributed to the consortium for comments before the final decisions to be made.

It was also needed to decide how the articles will be organised. The dissemination leader (NOVA) proposed to develop a **Zenodo community** (https://zenodo.org/communities/cosmos-h2020/?page=1&size=20) for MAGIC, so that all the proceedings and publications can be stored there and to make sure that it is open access. NOVA proposed each participant to upload his/her publication after the consortium has reviewed it. NOVA has already done this for COSMOS project (H2020) that had been run very smoothly.

As soon as an additional deliverable will be included in MAGIC GA the DMP will be developed and uploaded by M24. The chapters of this deliverable will be:

1. **Data collection plan: Methodology and standards**
2. **Plan on how the collecting data will be shared and/or made open**
3. **Plan on how the generated data will be curated and preserved during and after the project**

For the proposed deliverable it will be taken into consideration the protocols that had been developed in the beginning of the project (**D9.2**), the data sharing needs for the scopes of the work packages (excel files that will be agreed within the consortium for the scopes of WP1, 2, 4, 5, 6, 7 & 8), the Zenodo community for the publications and the link with EIP AGRI.

It should be pointed out that a detailed dissemination and communication plan has already been developed by nova and will be linked with DMP.

It is attached as an annex the excel file that have been prepared for WP4 trials.

Table 1: Overview and description of field trials used to provide long-term data (MAGIC Task 4.2). In red: obligatory information; in grey: additional information (if available).

Field trial	Marginality constraints (according to JRC)	Location	Soil texture	Rooting depth / soil depth	Chemical / physical properties	Bulk density	Field capacity	Wilting point
Name / location / number / description (must be identical with captions of yield/quality results tables)	Please describe biophysical constraint/s of your area	Latitude, longitude, altitude	Sand, clay, loam (%)	(cm)	Organic matter (%), Total N (‰), Available P_2O_5 (ppm), Available K_2O (ppm), pH	g cm^{-3} (only where irrigated)	Pressure membrane extractors (-0.03 MPa) (only where irrigated)	Pressure membrane extractors (-1.5 MPa) (only where irrigated)

Table 2: Weather conditions of field trials used to provide long-term data (MAGIC Task 4.2). In red: obligatory information; in grey: additional information (if available).

Field trial	Date	Rainfall	Average temperature	Minimum temperature	Maximum temperature	Reference evapotranspiration
Name / location / number / description (must be identical with captions of yield/quality results tables)	Month	(mm)	(°C)	(°C)	(°C)	(mm)

Table 3: Overview (example): This table provides information on the ==yield results== of the lignocellulosic/wood crop ……... from field trial ……... at location …...…… with field trial design ……... during growth season ……. or from years ……. and ……... In red: obligatory information; in grey: additional information (if available).

LIGNOCELLULOSIC / WOODY CROPS									YIELD RESULTS			
Crop / species	Variety / genotype	Treat-ment	Date of sowing/ planting	Duration since last harvest (years) (only for woody crops)	Harvest date	Cutting height (cm)	Sampling area (m²)	Repli-cate	Dry matter yield (t ha^{-1})	Final plant density (plants m^{-2})	Final plant height (cm)	Final shoot density (shoots plant^{-1})
								1				
								2				
								3				
								...				

Table 4: Overview (example): This table provides information on the ==quality results== *of the lignocellulosic/wood crop* ……... *from field trial* ……... *at location* …..…… *with field trial design* …….. *during growth season* ……. *or from years* ……. *and* ……... *In red: obligatory information;* in grey: additional information (if available).

LIGNOCELLULOSIC / WOODY CROPS							QUALITY RESULTS					
Crop / species	Variety / genotype	Treat-ment	Date of sowing / planting	Duration since last harvest (years) (only for woody crops)	Harvest date	Repli-cate	Water content of fresh biomass (% of fresh matter)	Ash content (% of dry matter)	Hemi-cellulose content (% of dry matter)	Cellulose content (% of dry matter)	Lignin content (% of dry matter)	Lower heating value (MJ kg^{-1})
						1						
						2						
						3						
						…						

Table 5: Information on the ==**seed yield results**== *of the oil crop ……... from field trial ……... at location …..…… with field trial design ……... during growth season ……. or from years ……. and ……... In red: obligatory information; in grey: additional information (if available).*

OIL CROPS							SEED YIELD RESULTS						
Crop / species	Variety / genotype	Treat-ment	Date of sowing/ planting	Harvest date	Sampling area (m²)	Repli-cate	Seed fresh matter yield (t ha⁻¹)	Seed dry matter content (%)	Seed dry matter yield (t ha⁻¹)	Final plant density (plant m⁻²)	Final plant height (cm)	Total fresh matter biomass yield (t ha⁻¹)	Total dry matter biomass (t ha⁻¹)
						1							
						2							
						3							
						…							

Table 6: Information on the **seed quality results** *of the oil crop …….. from field trial …….. at location …...…. with field trial design ……. during growth season ……. or from years ……. and …….... In red: obligatory information; in grey: additional information (if available).*

OIL CROPS						SEED QUALITY RESULTS			
Crop / species	Variety / genotype	Treat-ment	Date of sowing/ planting	Harvest date	Repli-cate	Seed oil content (%)	Seed protein content (%)	Seed fatty acid composition (%)	Miscellaneous information
					1				
					2				
					3				
					...				