FWO DMP Template

Project supervisors (from application round 2018 onwards) and fellows (from application round 2020 onwards) will, upon being awarded their project or fellowship, be invited to develop their answers to the data management related questions into a DMP. The FWO expects a **completed DMP no later than 6 months after the official start date** of the project or fellowship. The DMP should not be submitted to FWO but to the research co-ordination office of the host institute; FWO may request the DMP in a random check.

At the end of the project, the **final version of the DMP** has to be added to the final report of the project; this should be submitted to FWO by the supervisor-spokesperson through FWO's e-portal. This DMP may of course have been updated since its first version. The DMP is an element in the final evaluation of the project by the relevant expert panel. Both the DMP submitted within the first 6 months after the start date and the final DMP may use this template.

1. General Information	
Name applicant	**Wangshu Mou**
FWO Project Number & Title	**1207022N-Characterization of novel regulators of the ethylene biosynthesis pathway in Arabidopsis**
Affiliation	☒ KU Leuven ☐ Universiteit Antwerpen ☐ Universiteit Gent ☐ Universiteit Hasselt ☐ Vrije Universiteit Brussel ☐ Other:
2. Data description	
Will you generate/collect new data and/or make use of existing data?	☒ Generate new data ☐ Reuse existing data

Describe the origin, type and format of the data (per dataset) and its (estimated) volume

*If you **reuse** existing data, specify the **source** of these data.*
*Distinguish data **types** (the kind of content) from data **formats** (the technical format).*

WP1: Identification of target genes of the *ess* mutants: *Task 1.1. whole genome re-sequencing of ess* mutants.

Origin of data	Type of data	Format	Estimated volume
The phenotype of the 6 *ess* lines (including M2, M3, F1-F3 generations)	Images and quantification data of root length, hypocotyle length, silique length etc.	.tif .xlsx	5.70 G
Ethylene measurement data of the 6 *ess* lines (including M2, M3, F1-F3 generations)	The ethylene level measured by gas chromatographic (GC) machine.	labbook .xlsx	120 MB
The backcrossed F3 seeds (homozygous) of the 6 *ess* lines and the genomic DNA extracted for the whole genome sequencing	Arabidopsis seeds and genomic DNA extraction	NA	The seeds are preserved in dry seed-cabinet at 4 ^{o}C and the gDNA are stored in the lab -80 ^{o}C freezer
Whole genome sequencing for these 6 lines (analyzed by Dr. Heba Ibrahim)	Sequence	.fasta	150 G (The raw sequencing data were processed by KU HPC server)
The candidate gene list and Sanger sequencing for confirmation	The candidate causal genes list and sequence	.xlsx .ab1	40 MB

WP2: In silico exploration of target genes: *Task 2.1. In silico and literature study of target genes*

Origin of data	Type of data	Format	Estimated volume

The list of candidate genes screened by GWAS	The SNP assay of from GWA-Portal	.xlsx	200 MB
Exploration of links between candidate genes and ethylene biosynthesis	The detailed information obtained STRING, Arabidopsis BAR browser and literature etc.	.tif .pdf	500 MB

WP3: Functional characterization of target genes: *Task 3.1. Extensive phenotyping; Task 3.2. Knockout, overexpression and reporter lines and Task 3.3. Biochemical and molecular assays.*

Origin of data	Type of data	Format	Estimated volume
The seeds of T-DNA mutant for each candidate causual gene screened by both EMS mutagensis and GWAS	Arabidopsis seeds	NA	The seeds are preserved in dry seed-cabinet at 4 ^{o}C
The data of ethylene measurement and phenotype of T-DNA mutants for each candidate causual gene	The ethylene level measured by gas chromatographic (GC) machine as well as the Images and quantification data for each T-DNA muant	Labbook .xlsx .tif	5 GB

	Making knockout, overexpression and reporter lines	Plasmid constructs, bateria, primers, transgenic lines	Labbook, .gb .genious	The sequence map of plasmid constructs are ~500 Mb. The plasmid DNA and primers are stored in -20 °C freezer; the plasmid DNA is also transformed into E.coli and Agro bateria and stored in -80 °C freezer for long-term storage. The seeds of transgenic lines are preserved in dry seed-cabinet at 4 °C
	Biochemical assay for the biological function of the candidate genes	Y1H, Y2H, BiFC, qRT-PCR, EMSA, Protein extraction, Western-blot assay for protein stability and phosphorylation etc.	labbook .tif	1 GB

3. Ethical and legal issues	
Will you use personal data? If so, shortly describe the kind of personal data you will use AND add the reference to your file in your host institution's privacy register. *In case your host institution does not (yet) have a privacy register, a reference is not yet required of course; please add the reference once the privacy register is in place in your host institution.*	☐ Yes ☒ No If yes: - Privacy Registry Reference: - Short description of the kind of personal data that will be used:

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, add the reference to the formal approval by the relevant ethical review committee(s).	☐ Yes ☒ No If yes: - Reference to ethical committee approval:
Does your work possibly result in research data with potential for tech transfer and valorisation? Will IP restrictions be claimed for the data you created? If so, for what data and which restrictions will be asserted?	☐ Yes ☒ No If yes, please comment:
Do existing 3rd party agreements restrict dissemination or exploitation of the data you (re)use? If so, to what data do they relate and what restrictions are in place?	☐ Yes ☒ No If yes, please comment:

4. Documentation and metadata	
What documentation will be provided to enable understanding and reuse of the data collected/generated in this project?	**Labbook, protocols (.dox), general calculation sheets (.xlsx), all the raw images, README files for characteristics raw data lists**
Will a metadata standard be used? If so, describe in detail which standard will be used. If not, state in detail which metadata will be created to make the data easy/easier to find and reuse.	☐ Yes ☒ No If yes, please specify:

5. Data storage & backup during the FWO project	
Where will the data be stored?	**BOX and university's central servers**
How will the data be backed up?	**All data is immediately backed up in BOX, with daily back-up to the central servers, and also stored in**

	hard drive.
Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.	☒ Yes ☐ No If no, please specify: **The lab currently uses 8 GB of the available 2 TB on the server, which is with automatic daily back-up procedures. The PI (Prof Van de Poel) is responsible for the lab drives. Physical data: The seeds will be preserved in dry seed-cabinet at 4 °C for long-term storage, supervised by the lab technician (Stijn Roden).The primers and DNA are stored in the lab -20 °C freezer. The plasmid DNA stocks (stored in bacteria), extracts, protein, RNA and (c)DNA samples will be stored in the lab -80 °C freezer for long-term storage. The lab has sufficient space in the -80 °C freezer. The -80 °C freezer is equipped with an automated temperature alarm, provided by the KUL central dispatch team. A backup contact list is provided in case the -80 °C goes into alarm.**
What are the expected costs for data storage and backup during the project? How will these costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	**We don't expect extra cost for data storage. But in case the lab does not have enough storage room, the PI has budget to buy more.**
Data security: how will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?	**The ICTS service of KU Leuven secures the network drive of the shared folder. Unauthorized persons do not have access to this folder.**

6. Data preservation after the end of the FWO project FWO expects that data generated during the project are retained for a period of minimally 5 years after the end of the project, in as far as legal and contractual agreements allow.	
Which data will be retained for the expected 5 year period after the end of the project? In case	**All data will be retained for the expected 5 year period.**

only a selection of the data can/will be preserved, clearly state the reasons for this (legal or contractual restrictions, physical preservation issues, ...).	
Where will these data be archived (= stored for the long term)?	**University's central service, -20°C and -80°C freezer as well as the seedstock (4°C)**
What are the expected costs for data preservation during these 5 years? How will the costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	**We don't expect extra costs. In case there will be, the PI had budget for this.**

7. Data sharing and reuse	
Are there any factors restricting or preventing the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?	☐ Yes ☒ No If yes, please specify:
Which data will be made available after the end of the project?	**We aim to publish all data and make it available for requests afterwards. Until publication the data will be protected.**
Where/how will the data be made available for reuse?	☐ In an Open Access repository ☐ In a restricted access repository ☒ Upon request by mail ☐ Other (specify):
When will the data be made available?	**After publication of the research results**
Who will be able to access the data and under	**All lab members will have access to the data. The published data will be available upon request.**

what conditions?	
What are the expected costs for data sharing? How will these costs be covered? *Although FWO has no earmarked budget at its disposal to support correct research data management, FWO allows for part of **the allocated project budget** to be used to cover the cost incurred.*	**Data sharing is organized by the KU Leuven and are free for the lab.**

8. Responsibilities	
Who will be responsible for the data documentation & metadata?	**Wangshu Mou**
Who will be responsible for data storage & back up during the project?	**Wangshu Mou**
Who will be responsible for ensuring data preservation and sharing?	**Prof. Bram Van de Poel**
Who bears the end responsibility for updating & implementing this DMP? *Default response: The PI bears the overall responsibility for updating & implementing this DMP*	**Prof. Bram Van de Poel**