##### **PRT-CGN-PG-118 PROTOCOL mulitiplication flax**

This protocol applies to all parties involved in the multiplication of CGN material.

### **Introduction**

Multiplications have to fulfil minimum quality requirements to ensure maintenance of genetic identity and integrity (avoiding seed mixing among accessions and minimizing loss of diversity through genetic drift) and high seed quality (absence of diseases and sufficient germination ability).

Contamination with Genetically Modified Organisms (GMO) should be prevented.

*Any deviation from this protocol should be reported to CGN, after which it will be recorded by CGN in the Multiplication logbook (FOR-CGN-PG-002).*

**Multiplication**

Maintiaining genetic integrity

* Isolation
* Not relevant (flax is a self-pollinator).
* Population size
* Of *L. usitatissium*, 100 - 2,000 seeds are sown per m².
* Of other *Linum* species, multiplication is done on a minimum of 10 plants per accession in pots or flat container. It is recorded how many plants per accession participated in multiplication. These data are recorded in the Multiplication logbook.
* When pricking out and transplanting of the other *Linum* species, the required number of plants is chosen without applying selection in the population. However, plants that lag much behind in growth may be omitted if the lag would result in these plants ultimately not contributing to seed multiplication of the accession.
* Sowing
* Any dormancy or low germination capacity of the seed should be taken into account. Germination recommendations sent along by the CGN or the propagator's own germination methods are followed.
* The number of seeds to be sown will be determined by the CGN.
* If material germinates poorly or very slowly, these findings are recorded and copied into the Multiplication logbook.
* Pollination
* Not relevant.
* Cultivation
* No selection takes place. If an accession is more heterogeneous than what is expected from the passport data, or if it is a mixture of different species or types, the CGN will be informed. The CGN decides whether and how selection may take place. This is recorded and copied into the Multiplication logbook.
* The crop is shielded from birds after flowering.
* Harvest
* All flowering stems with mature seed are harvested, taking care not to mix accessions, and bundled by field number.

Maintaining identity

* Characteristics
* During sowing, cultivation and harvesting, accessions should be clearly marked by labels with the field number. The field number given before sowing remains the same until harvest.
* Selection
* No selection takes place. If an accession is more heterogeneous than what is expected from the passport data, or if it is a mixture of different species or types, the CGN will be informed. The CGN decides whether and how selection may take place. This is recorded in the Multiplication logbook.
* Harvest
* When harvesting, care is taken to avoid mixing with neighbouring fields.

Maintaining seed quality:

* Seed decontamination before sowing
* Not relevant.
* Pruning
* Not relevant.
* Cultivation
* Wild species that are sensitive to alloy are tied up.
* Inspection
* Not relevant.
* Seed treatment after harvest
* Bags with the harvested plant parts are pre-dried.
* In consultation with the CGN, it will be decided how the seed will be cleaned after harvest.

**Concluding actions**

* All deviations during cultivation are noted and sent with the seed. These notes are copied into the Multiplication logbook.
* The harvested seed is sent to the CGN as soon as possible, but no later than 6 months after harvest, with the seed bags bearing the CGN number and field number.