##### **PRT-CGN-PG-112 PROTOCOL multiplication wild cereals**

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**Maintaining genetic integrity

* Isolation
* The CGN indicates in which species cross-pollination occurs and accessions should be propagated in isolation.
* Population size
* A minimum of 10 plants are multiplied per accession.
* When transplanting, the required number of plants is chosen without applying selection in the population. However, plantlets 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.
* The number of plants that have been included in a multiplication is recorded for every accession. These data are copied into the Multiplication logbook.
* Sowing
* The possibility of dormancy or poor germination capacity of the seed is taken into account. Germination advice sent with the seeds from CGN or own methods of breeders 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.
* Vernalisation
* The CGN specifies the accessions to be vernalized and the minimum length of the vernalisation period. These data are copied into the Multiplication logbook.
* Cultivation
* No selection takes place. However, in case an accession is more heterogenic than expected from the passport data or in case of a mixture of different species or crop types, CGN needs to be consulted and CGN decides if and how selection will take place. This is being recorded and copied into the Multiplication logbook.
* Wild species are prone to lodge and need to be supported or tied.
* Pollination
* Species that are self-incompatible and where cross-pollination should take place are identified by the CGN.
* Harvest
* Because of a brittle spike, the ripe seed must be harvested regularly or the spikes are bagged before ripening.
* All seed produced will be returned to the CGN.

Maintaining identity

* Characteristics
* During sowing, cultivation and harvesting, accessions should be clearly marked with a label indicating the field number. All field numbers assigned prior to seed sowing should remain unchanged up to and including harvesting and seed cleaning.
* Harvest
* When harvesting, care is taken to avoid mixing with seed from neighbouring fields.

Maintaining seed quality:

* Seed decontamination before sowing
* The seed is disinfected according to permitted methods.
* Inspection
* Spraying is done against mildew and aphids.
* Seed treatment after harvest
* Bags with the harvested plant parts are pre-dried, 3-7 days at 25 - 30 ˚C.
* The method of seed cleaning is being decided in consultation with CGN.

**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.