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Seed Handling Manual

Guidelines and Logbook for Seed Processing

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SEEDLOT DIARY

Seed source (no. and name): .....
Species: ..... *Seed lot no:* .....

1. Seed Maturity

a. Maturity criteria: .

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

b. Cutting test to determine maturity: yes ❒ no ❒

Date of sampling: .....
Sample size (no. of seeds): ..... Percentage mature: ..... %

c. Estimated mature seeds (without sampling): ..... %

d. Cutting test: yes ❒ no ❒

Date of sampling: ..... Date of testing: .....

Sample size (no. of seeds): .....
% filled and good: ..... %
% empty: ..... %
% damaged/dead: ..... %
% immature or not developed: ..... %

e. Moisture content: yes ❒ no ❒

Date of sampling: ..... Date of testing: .....
Method: .....
No. of replicates: ..... Size of replicate: .....
Material (fruit/seed): .....
.....
.....

Moisture content: ..... % (fresh weight basis)

2. Collection

a. Collection dates: .....

b. Collection method: from the tree ❒ from the ground ❒
from a cover on the ground ❒

If from a cover on the ground, state maximum number of days from shedding to collection: ..... days

c. Describe the method of collection and the material collected (e.g. clusters of pods, fleshy fruits):

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

d. No. of trees collected from: ..... **Mixed in the field**:……..

e. Is the size of the crop: Good ❒ Intermediate ❒ Poor ❒

f. Condition of the material (e.g. pests, mechanical damage, maturity):

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

g. Describe any selection/cleaning of collected material done at this stage:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

h. Yield:

Total quantity collected: ..... unit (litres, kg, other): .....

Total quantity of fruit collected: ..... unit (litres, kg, other): .....

Quantity of seed (or other unit ready for selling): ..... kg

3. Transport/storage before processing

a. If any **processing steps** (item 4) were made **in the field** state their numbers (see numbers in diagram, item 4): .....

b. Number the processing steps done at the central unit i.e. where the seed will be finally stored (see numbers in diagram, item 4): .....

c. Temporary storage and transport conditions

Temporary storage (TS) & transport (T)	*Duration (dates)*	*Container type*	*No. of kg per container*	*Temp./ °C*	*Air exchange possible (Yes/No)*
TS between collection and processing in field or transport					
TS after processing in field and before transport					
T to central seed centre					
TS at seed centre before processing					

4. Processing

a. **Type of storage physiology** (known or suspected):

Recalcitrant ❒ Intermediate ❒ Orthodox ❒ Unknown ❒

b. Initial testing before processing:

Date of sampling	Seed mc/%	Normal seed-lings/%	Abnor-mal seedl.%	Empty seeds/%	Fresh seeds/%	Insect attacked seeds/%	Other/ %	Days to 50% germ.

STEP	*DATE(S)*	*MACHINE/METHOD*
c. Pre-cleaning		
d. After-ripening		.....% mature ..... % filled and good
e. CONES		
1. Drying cones		
2. Tumbling cones		
3. Dewinging seed		
4. Other		

STEP	*DATE(S)*	*MACHINE/METHOD*
f. FRUITS, DRY		
1. Drying fruits **2.** Threshing **3.** Separation **4.** Dewinging **5.** Other		
g. FRUITS, WET		
1. Soaking **2.** Maceration **3.** Washing (state whether sinkers/ floaters are removed)		
h. Drying of seed (or other unit stored/sold)		
i. Cleaning		
j. Upgrading		

5. Testing during processing

a. Moisture content:

Method: .....
No. of replicates: ..... Size of replicate: .....

Subsequent determinations of moisture content:

Date of sampling	*Step no*	*Moisture content/%*

b. Cutting tests

Sample size (no. of seeds): .....

Filled and good: F
Empty: E
Damaged/dead: D
Immature or not developed: I

Date of sampling	*F%*	*E%*	*D%*	*I%*	*During/after step no*

6. Pretreatment

a. Type of dormancy (known or suspected):

Physical (water-impermeable) ❒ Chemical ❒ Mechanical ❒

Embryo dormancy ❒ Not dormant ❒ Unknown ❒

b. Method of pretreatment before germination testing (describe details e.g. temperature, duration, machine):

c. Other pretreatment methods tested and their applicability:

7. ISTA-testing after processing, before storage/selling

a. Date of sampling: ..... **b.** Date for initiation of germination test: .....

c. Moisture content: ..... % **d.** 1000 seed weight: ..... no./kg

e. Purity: ..... %

f. Germination capacity: ..... % normal germinants ..... % abnormal
..... % fresh not germinated ..... % insect attacked ..... % empty
..... % other

g. Germination speed:
First germinant: ..... days (after initiation of germination test)
Last germinant: ..... days 50% germination: ..... days

8. Evaluation of seed quality

Very good ❒ Satisfactory ❒ Not satisfactory ❒ Poor ❒

Conclusions, causes of dissatisfactory results, procedures to be changed, tests/research to be made:

. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .
. . . . . .

9. Storage conditions

Date for initiation of storage	Container type	Seed per container/kg	Temperature/ °C	Seed moisture content/%

10. Pesticide treatment or other precautions

Method: . . . . . .
. . . . . .
. . . . . .
. . . . . .

Applied during/after step:..... Date of treatment: .....

11.Testing during storage

Date	*MC/%*	*Normal seed-lings/%*	*Abnormal seedl.%*	*Empty seeds/%*	*Fresh seeds/%*	*Insect attacked seeds/%*	*Other/ %*	*Days to 50% germ.*

Evaluation of storability

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. . . . . .

12. Comments