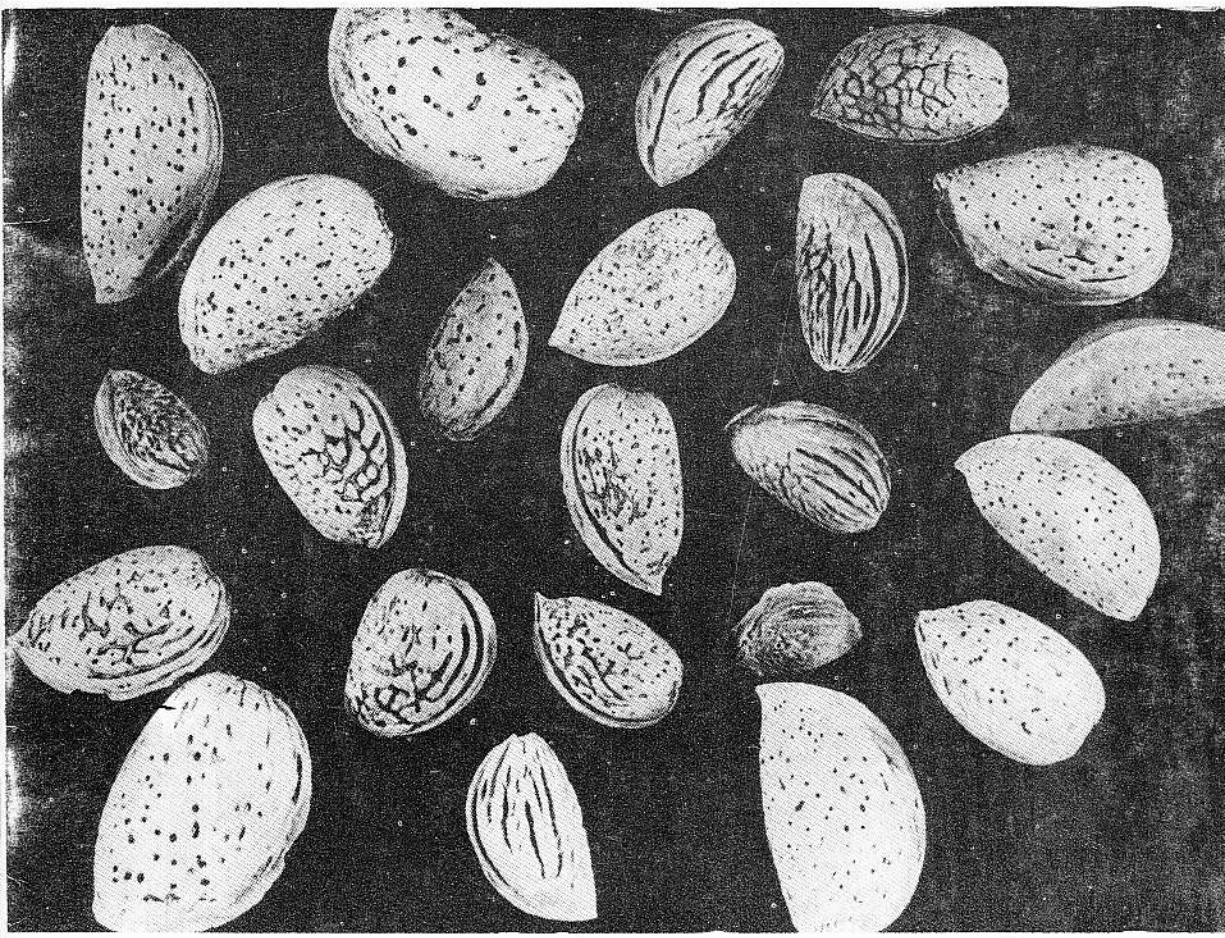
ALMOND



DESCRIPTORS

AGP:IBPGR/80/88
August 1981

INTERNATIONAL BOARD FOR PLANT GENETIC RESOURCES

Almond Descriptors

IBPGR Secretariat
Rome, 1981

The International Board for Plant Genetic Resources (IBPGR) is an autonomous, international, scientific organization under the aegis of the Consultative Group on International Agricultural Research (CGIAR). The IBPGR which was established by the CGIAR in 1974, is composed of its Chairman and 15 members; its Executive Secretariat is provided by the Food and Agriculture Organization of the United Nations. The basic function of the IBPGR, as defined by the Consultative Group, is to promote an international network of genetic resources centres to further the collection, conservation, documentation, evaluation and use of plant germplasm and thereby contribute to raising the standard of living and welfare of people throughout the world. The Consultative Group mobilizes financial support from its members to meet the budgetary requirements of the Board.

IBPGR Executive Secretariat
Plant Production and Protection Division
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CONTENTS

PREFACE

The almond descriptor list has been prepared during a GREMPA (Groupe de Recherches et d'Etudes Méditerranéen Pour l'Amandier) Symposium at Izmir, Turkey, 16-22 June 1980. The list of participants is shown in the Appendix. A draft list for discussion was submitted to the Symposium by Professor M. Dokuzoguz and Professor R. Gülcan.

The IBPGR recommends the final list for use in documentation of almond genetic resources. The suggested coding of descriptor states, although conforming to standard genetic resources documentation practice, should not be regarded as the only definitive scheme.

Any suggestions for modifications would be welcomed by the IBPGR Secretariat.

DESCRIPTOR LIST FOR ALMOND

The IBPGR now uses the following definitions in genetic resources documentation.

(i) passport data (accession identifiers and information recorded by collectors);

(ii) characterization (consists of recording those characters which are highly heritable, can be easily seen by the eye and are expressed in all environments);

(iii) preliminary evaluation (consists of recording a limited number of additional traits thought desirable by a consensus of users of the particular crop).

Characterization and preliminary evaluation will be the responsibility of the curators, while further evaluation should be carried out by plant breeders and other users of the material. The data from further evaluation should be fed back to curators who will maintain data files.

Many descriptors which are continuously variable are recorded on a 1-9 scale. The authors of this list have sometimes described only a selection of the states, e.g. 3, 5 and 7 for such descriptors. Where this has occurred the full range of codes is available for use by extension of the codes given or by interpolation between them - e.g. TREE SHAPE (4.1) could also be recorded as:

2 Very spreading to spreading

or

6 Medium to upright

PASSPORT DATA

1. ACCESSION DATA

1.1 ACCESSION NUMBER

This number serves as a unique identifier for accessions and is assigned by the curator when an accession is entered into his collection. Once assigned this number should never be reassigned to another accession in the collection. Even when an accession is lost, its assigned number is still not available for re-use. Letters occur before the number to identify the genebank.

1.2 ACQUISITION DATE

The date when a particular accession entered the germplasm collection, expressed numerically as day/month/year. For example 10 June 1981 to be coded as 100681

1.3 SCIENTIFIC NAME

1.3.1 Genus

1.3.2 Species (subspecies)

1.3.3 Other category

1.4 DONOR NAME

Name of the person or institution responsible for donating the germplasm to the collection

1.5 DONOR NUMBER

Accession number or name assigned by the donor

1.6 PEDIGREE

Nomenclature and designations assigned to breeders' material

1.7 ANY OTHER NAMES OR NUMBERS ASSOCIATED WITH THE ACCESSION

e.g. common name, not collection number (see 2.2) or vernacular name (see 2.11)

2. COLLECTION DATA

Data to be recorded when the accession is collected in the field

2.1 COLLECTING INSTITUTE

Institute or person collecting the original sample

2.2 ORIGINAL NUMBER ASSIGNED BY COLLECTOR OF THE SAMPLE

It is normally composed of the name or initials of the collector(s) followed by a number

2.3 DATE OF COLLECTION OF ORIGINAL SAMPLE

Expressed as day/month/year, e.g. 20 October 1981 as 201081

2.4 COUNTRY OF COLLECTION

Use the three letter abbreviations supported by the Statistical Office of the United Nations. Copies of these abbreviations are available from the IBPGR Secretariat.

2.5 LATITUDE OF COLLECTION SITE

Degrees and minutes followed by N or S, e.g. 4115 N

2.6 LONGITUDE OF COLLECTION SITE

Degrees and minutes followed by E or W, e.g. 3630 E

2.7 LOCATION OF COLLECTION SITE

Number of kilometres and direction from nearest town, village or map reference point

2.8 ALTITUDE OF COLLECTION SITE

Elevation above sea level, in metres

2.9 TYPE OF SAMPLE

1 Seedling
2 Primitive cultivar
3 Advanced cultivar
4 Breeders' material

2.10 SAMPLE SOURCE

1 Field
2 Market
3 Farm store
4 Backyard/garden
5 Orchard
6 Institute
7 Other (please specify)

2.11 VERNACULAR NAME

Name given locally to a cultivar by the farmers where a sample was collected

2.12 ETHNIC GROUP

Name of the ethnic group providing the vernacular name

CHARACTERIZATION AND PRELIMINARY EVALUATION

3. GENERAL

3.1 SITE OF CHARACTERIZATION AND PRELIMINARY EVALUATION

3.2 YEAR OF CHARACTERIZATION AND PRELIMINARY EVALUATION

3.3 EVALUATOR(S) NAME AND ADDRESS

4. TREE

4.1 SHAPE

See Figure 1

		Cultivar
1	Very spreading (drooping)	Aï
3	Spreading	Ne Plus Ultra
5	Medium	Nonpareil
7	Upright	Texas
9	Very upright	Bartre

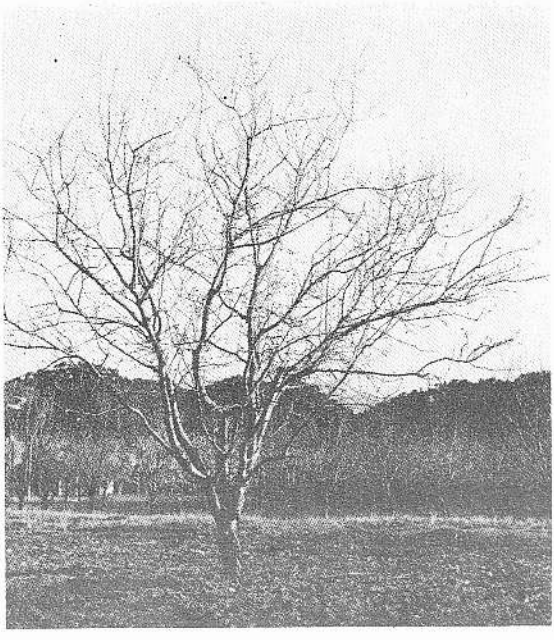
4.2 VIGOUR

3 Weak
5 Medium
7 Strong

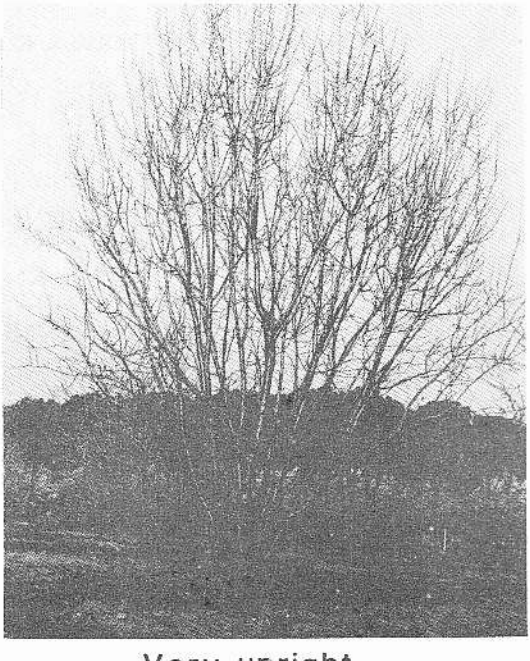
Spreading

Medium

Figure 1. Tree Shape



Upright



Very upright

Figure 1. Tree Shape (Continued)

4.3 RAMIFICATION

		Cultivar
3	Sparse	Bartre, Cristomorto
5	Medium	Texas
7	Dense	AÎ

4.4 ANTHOCYANIN COLOURATION OF SHOOT TIP

On one-year old shoots

0	Absent
+	Present

4.5 INTENSITY OF ANTHOCYANIN COLOURATION

On one-year old shoots

3	Weak	Desmayo Largueta
5	Medium	Bartre
7	Strong	Texas

4.6 FOLIAGE DENSITY

3	Sparse	Nonpareil
5	Medium	Texas
7	Dense	Jordanolo

4.7 LOCATION OF FLOWER BUDS

See Figure 2

1	Most flower buds on one-year old shoots	AÎ
2	Most flower buds on spurs	Tuono
3	Mixed	Texas

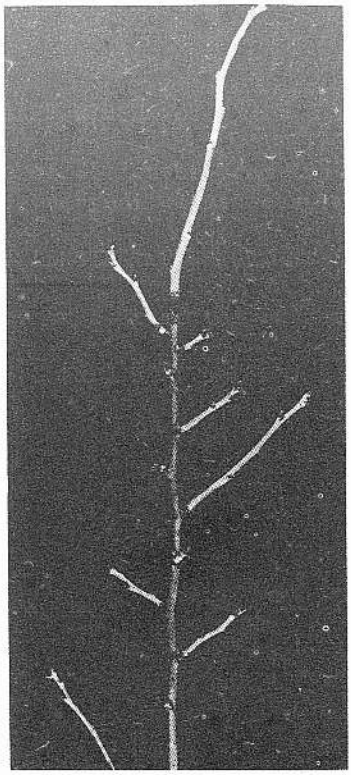
5. LEAF

5.1 LEAF BLADE COLOUR

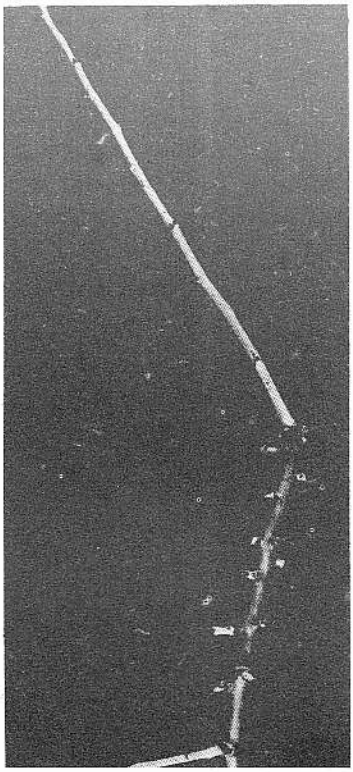
3	Light green	Davey
5	Green	
7	Dark green	Jordanolo

5.2 LEAF BLADE LENGTH

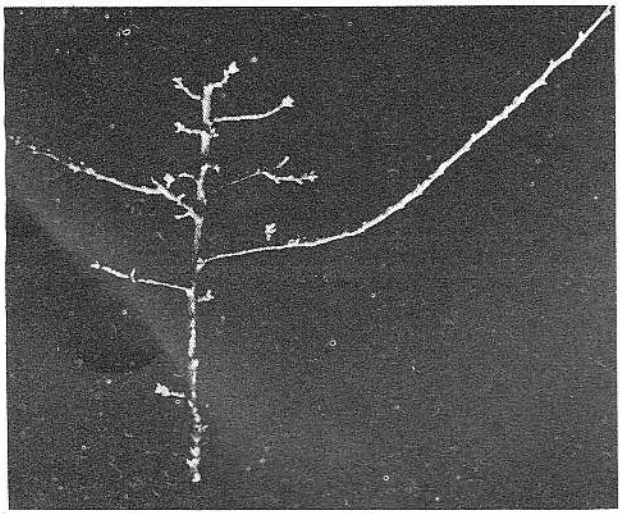
Average of 25 leaves from the middle portion of several one-year old shoots, measured in centimetres



Most flower buds on one-year old shoots



Most flower buds on spurs



Mixed

Figure 2. Location of Flower Buds

5.3 LEAF BLADE WIDTH

Average of 25 leaves from the middle portion of several one-year old shoots, measured in centimetres

5.4 PETIOLE LENGTH

Measured in centimetres

5.5 PETIOLE GLANDS

Usually:

1 Absent
2 1-2
3 2-3
4 2-4
5 3-4

6. FLOWER

6.1 DATE OF FLOWERING

Date when 10% flower opening occurs and expressed numerically as day, month and year, e.g. 5 March 1981 as 050381

6.2 COLOUR OF PETALS

		Cultivar
1	White	Cavaliera
2	Light pink	
3	Pink	Marcona

6.3 SIZE

Mean of corolla diameter of 25 flowers taken from several parts of the tree, measured in millimetres

6.4 DOUBLE FLOWER IN BUDS

0 Absent
3 Few
7 Many

6.5 NUMBER OF PISTILS

Flower with the following number of pistils

1 one
2 one to two
3 two
4 one to three

7. FRUIT

7.1 TIME OF FRUIT MATURITY

		Cultivar
1	Very early	Cavaliera
3	Early	Nonpareil
5	Medium	Ferragnès
7	Late	Marcona
9	Very late	Texas

7.2 PRODUCTIVITY

3	Light cropping	Davey
5	Medium cropping	
7	Heavy cropping	Marcona

7.3 HARVESTING

As indicated by fruit drop

3 Difficult
7 Easy

7.4 HULLING

3 Difficult
7 Easy

8. NUT

8.1 NUT SIZE

1 Very small
3 Small
5 Medium
7 Large
9 Very large

8.2 NUT SHAPE

See Figure 3

1 Round
2 Ovate
3 Oblong
4 Cordate

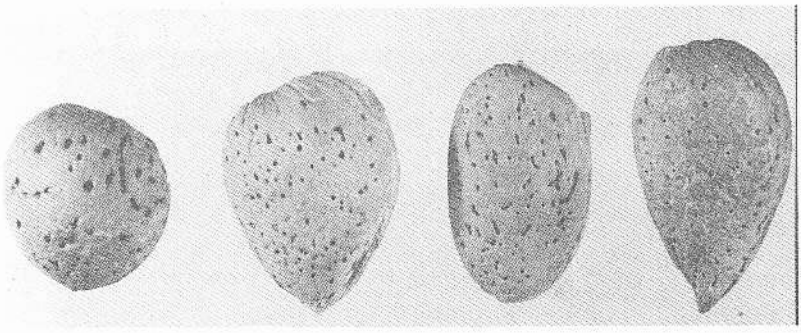


Figure 3. Nut Shape

8.3 SHELL COLOUR INTENSITY

1 Very Light
3 Light
5 Medium
7 Dark
9 Very dark

Cultivar

Abiod
Peerless

Marcona

8.4 MARKING OF OUTER SHELL

See Figure 4

1 Sparsely pored
2 Moderately pored
3 Densely pored
4 Scribed

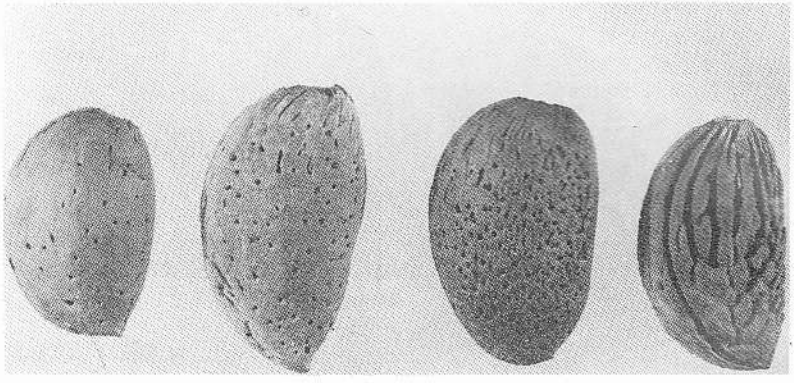


Figure 4. Marking of Outer Shell

8.5 SUTURE OPENING OF THE SHELL

See Figure 5

1 Excellent seal (no opening)
5 Open (about 2 millimetres)
9 Very wide

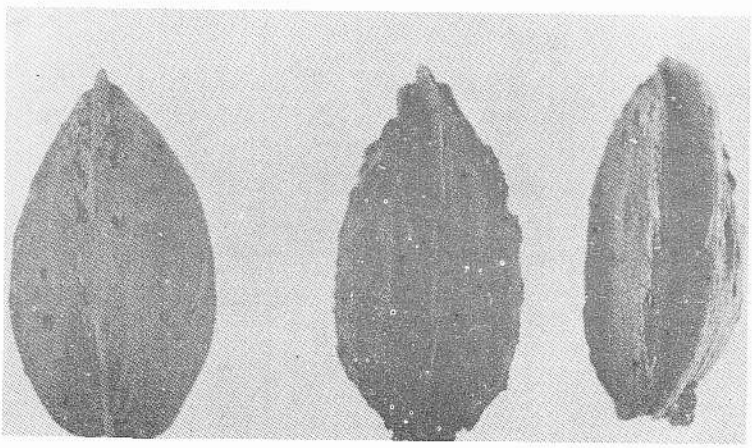


Figure 5. Suture Opening of the Shell

8.6 SHELL RETENTION

Portion of outer corky layer of shell (see Figure 6)

1 None retained
5 Partly missing
9 All retained

Figure 6. Shell Retention

8.7 SOFTNESS OF SHELL

1 Very hard shell (Very difficult to break, needs hammer)
3 Hard shell (Difficult to break, needs hammer)
5 Semi-soft shell (Broken by hand with effort)
7 Soft shell (Broken by hand)
9 Paper shell (Very thin, easily removed)

9. KERNEL

9.1 KERNEL SIZE

Number of kernels in 100 grams

9.2 KERNEL WIDTH/LENGTH RATIO

In a sample of 100 nuts

9.3 KERNEL COLOUR INTENSITY

		Cultivar
1	Very light	Davey
3	Light	Nonpareil
5	Medium	Ne Plus Ultra
7	Dark	Texas
9	Very dark	Fournat de Brézenaud

9.4 KERNEL TEXTURE

See Figure 7

3	Wrinkled	
5	Moderately wrinkled	
7	Slightly wrinkled	Nonpareil

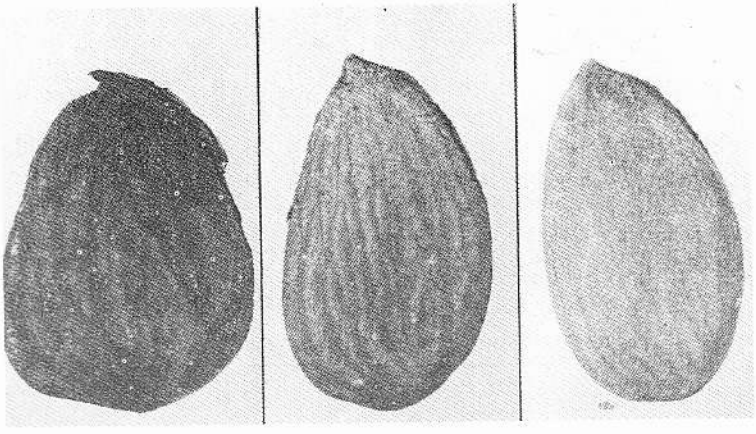


Figure 7. Kernel Texture

9.5 KERNEL PUBESCENCE

		Cultivar
2	Slightly pubescent	Nonpareil
4	Moderately pubescent	Desmayo
6	Markedly pubescent	Ferragnès
8	Very pubescent	Ardéchoise

9.6 KERNEL TASTE

3	Sweet	Nonpareil
5	Mildly bitter	Texas
7	Bitter	

9.7 KERNEL OIL CONTENT

3 Low
5 Medium (50-60%)
7 High

9.8 PERCENTAGE OF SOUND KERNELS

The percentage of sound kernels in a sample of 100 nuts

9.9 PERCENTAGE OF DOUBLE KERNELS

The percentage of double kernels in a sample of 100 nuts (see Figure 8)

9.10 PERCENTAGE OF TWIN KERNELS

The percentage of twin kernels in a sample of 100 nuts. A twin kernel is a seed in which more than one embryo occurs. These can be detected by the outline of the small embryo showing through the seed coat (see Figure 9)

FURTHER EVALUATION

10. REACTION TO SPECIFIC DISEASES AND PESTS

Note the name of the disease or pest and the reaction using a scale:

H - Hypersensitive
I - Immune
R - Resistant
S - Susceptible
T - Tolerant

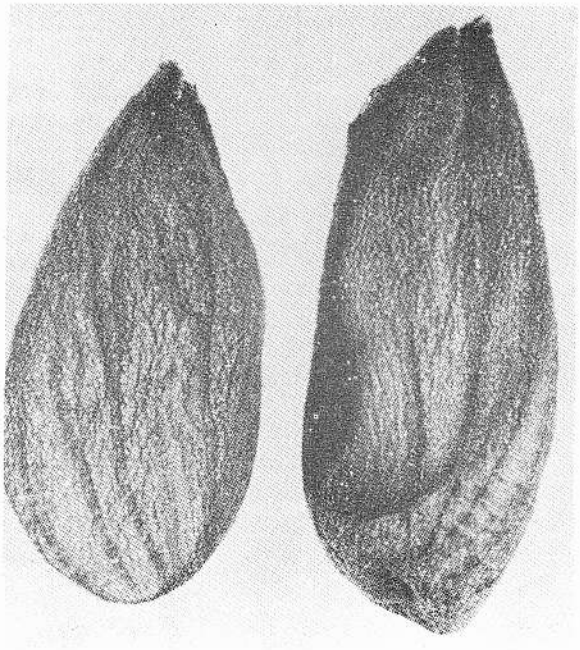


Figure 8. Double Kernel

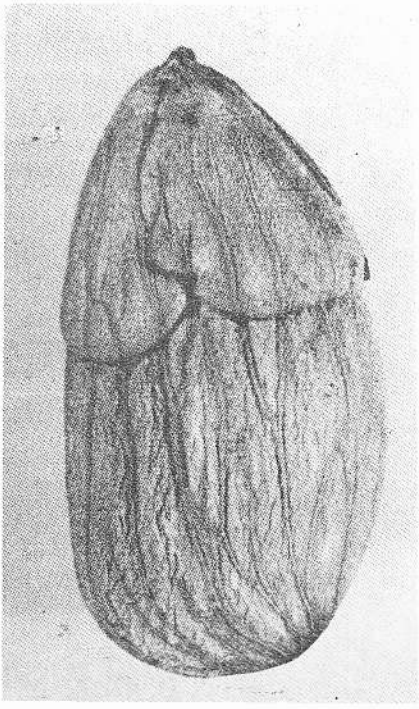


Figure 9. Twin Kernel

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