



TWF/33/14

ORIGINAL: English

DATE: October 24, 2002

**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**TECHNICAL WORKING PARTY  
FOR  
FRUIT CROPS**

**Thirty-Third Session  
San Carlos de Bariloche, Argentina  
November 25 to 29, 2002**

**WORKING PAPER ON DRAFT TEST GUIDELINES FOR PERSIMMON  
DOCUMENT TG/92/4(proj.1)**

*Document prepared by experts from Japan*

The attached document TG/92/4(proj.1) already incorporates the standard wording of document TGP/7.2, which was adopted by the Technical Committee at its thirty-eighth session in April 2002, and includes some additional standard wording from document TGP/7.1 Draft 1, also agreed at that session.

[Document TG/92/4(proj.1) follows]



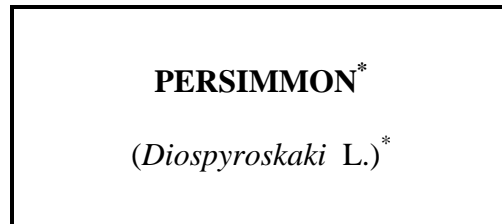


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ORIGINAL: English

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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**GUIDELINES****FOR THE CONDUCT OF TESTS****FOR DISTINCTNESS, UNIFORMITY AND STABILITY**

Alternative Names: \*

Latin	English	French	German	Spanish
<i>Diospyros kaki</i> L.	Persimmon	Plaqueminier	Kakipflaume	Caqui

**ASSOCIATED DOCUMENTS**

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as the "General Introduction") and its associated "TGP" documents.

\* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website ([www.upov.int](http://www.upov.int)), for the latest information.]

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1. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Diospyros kaki* L. and their hybrids.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of one -year-old grafted plants.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

5 plants (one -year old graft ed plant s) on root stock of *Diospyros kaki* L.  
or *Diospyros lotus* L.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease. It should preferably not be obtained from *in vitro* propagation. If it has been produced by *in vitro* propagation this fact has to be stated by the applicant.

2.5 The plant material should not have undergone any treatment, which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 *Duration of Tests*

The minimum duration of tests should normally be two independent growing cycles.

3.2 *Testing Place*

The tests should normally be conducted at one place. If any characteristics of the variety, which are relevant for the examination of DUS, cannot be seen at that place, the variety may be tested at an additional place.

3.3 *Conditions for Conducting the Examination*

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination. In particular, it is essential that the trees produce a satisfactory crop of fruit in each of the two growing cycles.

3.3.2 Characteristics containing the following notes in the second column of the Table of Characteristics should be examined as indicated below:

- a Tree/One-year old shoot: Unless otherwise stated, all observations on the tree and the one -year old shoot should be made during the dormant season. All observations on the one -year old shoot should be made on the middle third.
- b Leaf: Unless otherwise stated, all observations on the leaf should be made in summer on fully developed leaves from the middle third of a current season's shoot.
- c Flower: Unless otherwise stated, all observations on the flowers should be made on fully developed flowers at full flowering .
- d Fruit: Unless otherwise stated, all observations on the fruit should be made on fruits at the time of harvest maturity.

### 3.4 *Test Design*

3.4.1 Each test should be designed to result in a total of, at least 5 plants.

3.4.2 The design of the tests should be such that plants or parts of plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle.

### 3.5 *Number of Plants/Parts of Plant to be Examined*

Unless otherwise indicated, all observations determined by measuring or counting should be made on 5 plants or 2 parts taken from each of 5 plants.

### 3.6 *Additional Tests*

Additional tests, for examining relevant characteristics, may be established.

## 4. Assessment of Distinctness, Uniformity and Stability

### 4.1 *Distinctness*

#### 4.1.1 *General Recommendations*

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

#### 4.1.2 *Consistent Differences*

The minimum duration of tests recommended in section 3.1 reflects, in general, the need to ensure that any differences in a characteristic are sufficiently consistent.

### 4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

## 4.2 Uniformity

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity.

4.2.2 The acceptable number of off-types tolerated in a sample size of 5 plants is none on the basis of a population standard of 1% and an acceptance probability of 95%.

## 4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new seed or plant stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

## 5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness is aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with others such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trials so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

- (a) Fruit: general shape in lateral view (characteristic 21)
- (b) Non-astringent varieties only : Fruit: color of skin (characteristic 37.a)
- (c) Astringent varieties only : Fruit: color of skin (characteristic 37.b)
- (d) Non-astringent varieties only : Time of ripeness for eating (characteristic 45.a)
- (e) Astringent varieties only : Time of ripeness for eating (characteristic 45.b)
- (f) Fruit: astringency (characteristic 46)
- (g) Fruit: change of color of flesh related to seed formation (characteristic 47)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

## 6. Introduction to the Table of Characteristics

### 6.1 *Categories of Characteristics*

#### 6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

#### 6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by \*) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

### 6.2 *States of Expression and Corresponding Notes*

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

### 6.3 *Types of Expression*

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

### 6.4 *Example Varieties*

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

### 6.5 *Legend*

(\*) Asterisked characteristic –see Section 6.1.2

(QL) Qualitative characteristic –see Section 6.3

(QN) Quantitative characteristic –see Section 6.3

(PQ) Pseudo-Qualitative characteristic –see Section 6.3

(+) See Explanations on the Table of Characteristics in Chapter 8.

a to d See section 3.3.2



7. Table of Characteristics/Tab leaude caractères/Merkmalstabelle/Tabladede caracteres

MoE	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedades de ejemplo	Note/ Nota
<b>1.</b>	<b>a</b>	<b>Tree: vigor</b>				
		weak			Akagaki, Izu, Kurogaki	3
		medium			Shogatsu	5
		strong			Hiratanenashi, Saijo	7
<b>2.</b>	<b>a</b>	<b>Tree: habit</b>				
(*)		upright			Saijo	1
		semi-upright			Hiratanenashi	2
		spreading			Fuyu	3
		drooping			Shakokushi	4
<b>3.</b>	<b>a</b>	<b>One-year old shoot: length</b>				
(*)		short			Izu	3
		medium			Suruga	5
		long			Fuyu	7
<b>4.</b>	<b>a</b>	<b>One-year old shoot: thickness</b>				
		thin			Gosho, Nishimurawase	3
		medium			Jiro	5
		thick			Fuyu, Hiratanenashi	7
<b>5.</b>	<b>a</b>	<b>One-year old shoot: length of internode</b>				
		short			Nishimurawase	3
		medium			Gosho	5
		long			Fuyu, Gionbo	7

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
<b>6.</b>	<b>a</b>	<b>One-year old shoot: number of lenticels</b>					
[7]		few				Toyoka	3
		medium				Fuyu, Hiratanenashi, Jiro	5
		many				Amahyakume, Takura	7
<b>7.</b>	<b>a</b>	<b>One-year old shoot: size of lenticels</b>					
[8]		small				Aizumishirazu, Yotsumizo	3
		medium				Fuyu, Saijo	5
		large				Moriya, Takura	7
<b>8.</b>	<b>a</b>	<b>One-year old shoot: shape of lenticels</b>					
[9]		elliptic				Fuyu, Hiratanenashi, Jiro	1
		circular				Hanagosho, Nishimurawase	2
		oblong				Koshuhyakume	3
<b>9.</b>	<b>a</b>	<b>One-year old shoot: color ( sunny side)</b>					
[6]		gray brown				Sanja, Yotsumizo	1
		yellow brown				Hiratanenashi	2
		brown				Atago	3
		redbrown				Fuyu	4

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
<b>10.</b>	<b>a</b>	<b>One-yearold shoot: shape of budinprofileview</b>					
(*)							
(+)							
[13]							
		triangular				Aizumishirazu,Fuyu	1
		late				Jiro,Saijo	2
		elliptic				Hiratanenashi	3
<b>11.</b>	<b>b</b>	<b>Leafblade:length</b>					
		short				Hanagosho, Hiratanenashi	3
		medium				Fuyu,Nishimurawase	5
		long				Aizumishirazu,Saijo	7
<b>12.</b>	<b>b</b>	<b>Leafblade:width</b>					
		narrow				Eboshi	3
		medium				Fuyu,Jiro	5
		broad				Koshuhyakume	7
<b>13.</b>	<b>b</b>	<b>Leafblade:shape</b>					
(*)							
(+)							
		elliptic				Aizumishirazu,Fuyu	1
		ovate				Hanagosho, Hiratanenashi	2
		obovate				Shakokushi	3
<b>14.</b>	<b>b</b>	<b>Leafblade:shape ofbase</b>					
(*)							
(+)							
[20]							
		narrowacute				Eboshi	1
		broad acute				Aizumishirazu	2
		obtuse				Fuyu,Gosho	3
		rounded				Amahyakume,Suruga	4

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedadesejemplo	Note/ Nota
<b>15.</b>	<b>b</b>	<b>Leafblade:shape of apex</b>					
(+)		acuminate				Aizumishirazu	1
		acute				Atago,Fuyu ,Jiro,Saijo	2
		obtuse				Hiratanenashi,Suruga	3
<b>16.</b>	<b>a</b>	<b>Tree: sex expressionof flowers</b>					
(*)		femaleonly				Fuyu,Hiratanenashi,Jiro	1
		femaleandmale				Hanagosho	2
		female,maleand hermaphrodite				Kubogataobishi, Meotogaki	3
<b>17.</b>	<b>c</b>	<b>Femalef lower: diameterofcorolla</b>					
(*)		small				Kubo,Yotsumizo	3
		medium				Aizumishirazu	5
		large				Amahyakume, Koshuhyakume	7
<b>18.</b>	<b>c</b>	<b>Femaleflower: shapeofcalyx fromtopview</b>					
(+)		circular				Anzai	1
		roundedrhombic				Izu	2
		rhombic				Aizumishirazu,Fuyu	3
		regularcruciform				Hiratanenashi,Jiro	4
		irregularcruciform				Oshorokaki	5
<b>19.</b>	<b>c</b>	<b>Femalef lower: numberofcorolla lobes</b>					
(*)		four				Koshuhyakume	1
		morethanfour				Marcatelli	2

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielsorten Variedadesejemplo	Note/ Nota
<b>20.</b>	<b>d</b>	<b>Fruit: size</b>					
(*)		small				Yotsumizo	3
		medium				Hiratanenashi,Izu	5
		large				Fuyu,Koshuhyakume	7
<b>21.</b>	<b>d</b>	<b>Fruit: general shape in lateral view</b>					
(*)		narrow elliptic					1
(+)		elliptic				Saijo	2
		circular				Aizumishirazu, Amahyakume	3
		oblate				Fuyu,Izu,Jiro	4
		transverse broad oblong				Hiratanenashi	5
		ovate				Atago, Yotsumizo	6
		broad ovate				Koshuhyakume	7
		very broad ovate				Hanagosho	8
<b>22.</b>	<b>d</b>	<b>Fruit: general shape in cross section</b>					
(*)		circular				Aizumishirazu,Fuyu	1
(+)		rounded square				Nishimurawase	2
		square				Hiratanenashi,Jiro	3

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
<b>23.</b>	<b>d</b>	<b>Fruit: shape of apex in longitudinal section</b>					
(*)							
(+)							
		acuminate				Hoshomaru	1
		acute					2
		rounded				Hanagosho, Nishimurawase	3
		truncate				Akagaki,Fuyu	4
		retuse				Aizumishirazu, Zenjamaru	5
<b>24.</b>	<b>d</b>	<b>Fruit: grooving at apex</b>					
(+)							
		absent or weak				Saijo,Suruga	1
		intermediate				Atago,Hanagosho	2
		strong				Aizumishirazu	3
<b>25.</b>	<b>d</b>	<b>Fruit: shallow concentric cracking a round apex</b>					
(+)							
		absent or weak				Fuyu,Hiratanenashi,Jiro	1
		intermediate				Saijo	2
		strong				Dojohachiya,Ichidagaki	3
<b>26.</b>	<b>d</b>	<b>Fruit: cracking of apex</b>					
(+)							
		absent or weak				Fuyu,Hiratanenashi, Saijo	1
		intermediate				Gosho,Hanagosho	2
		strong				Jiro,Okugosho	3

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
27.	<b>d</b>	<b>Fruit: longitudinal groove</b>					
(+)							
		absent to very shallow				Fuyu, Hiratanenashi	1
		shallow				Mizushima	3
		medium				Jiro	5
		deep				Gionbo	7
28.	<b>d</b>	<b>Fruit: wrinkles at calyx end</b>					
		absent to very few				Fuyu, Hiratanenashi	1
		few				Akagaki, Koshuhyakume	3
		medium				Jiro	5
		many				Fujiwaragosho	7
29.	<b>d</b>	<b>Fruit: calyx attachment</b>					
(+)							
		at level				Saijo	1
		slightly depressed				Yotsumizo	2
		strongly depressed				Fuyu, Hiratanenashi, Izu, Jiro	3
30.	<b>d</b>	<b>Fruit: groove at calyx end</b>					
(+)							
		absent				Fuyu, Jiro	1
		present				Damopan, Fudegaki	9
31.	<b>d</b>	<b>Fruit: calyx-end cracking</b>					
		absent or weak				Hiratanenashi, Zenjimaruru	1
		intermediate				Fuyu	2
		strong				Hanagosho, Suruga	3

	MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
32.	[d]	<b>Fruit: calyx size compared with fruit diameter</b>					
(+)							
[45]							
		small				Naganogosho	3
		medium				Atago, Fuyu, Hiratanenashi	5
		large				Amahyakume, Dojohachiya	7
33.	[d]	<b>Fruit: attitude of calyx</b>					
(*)							
(+)							
[46]							
		erect				Aizumishirazu, Saijo	1
		semi-erect				Hiratanenashi, Jiro	2
		horizontal				Dojohachiya, Fuyu, Izu	3
34.	[d]	<b>Fruit: width of sepal</b>					
(+)							
[44]							
		narrow				Kubo, Saijo	3
		medium				Akagaki, Hanagosho	5
		broad				Fuyu, Gosho, Jiro, Yotsumizo	7
35.	[d]	<b>Fruit: length of stalk</b>					
[47]							
		short				Fuyu, Hanagosho, Jiro	3
		medium				Hiratanenashi, Saijo	5
		long				Fudegaki, Zenjimaruru	7
36.	[d]	<b>Fruit: thickness of stalk</b>					
[48]							
		thin				Saijo, Yotsumizo	3
		medium				Nishimurawase	5
		thick				Fuyu, Jiro	7



MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
37.a (* (+) [38]	d <b><u>Nonstringent varieties only :</u></b> <b>Fruit: color of skin</b>					
		yellow-orange			Shougatu	1
		orange			Hazegosho, Yamatogosho	2
		orange-red			Fuyu,Izu ,Jiro, Nisimurawase	3
		darkpurple			Kurogaki	4
37.b (* (+) [39]	d <b><u>Astringent varieties only :</u></b> <b>Fruit: color of skin</b>					
		yellow-orange			Gionbo,Saijo	1
		orange			Aizumishirazu, Hiratanenashi	2
				Koshuhyakume	3	
38.a (* (+) [40]	d <b><u>Nonstringent varieties only :</u></b> <b>Fruit: color of flesh</b>					
		yellow				1
		yellow-orange			HanaFuyu	2
		orange			Fuyu,Jiro	3
		orange-red			Gosho,Izu ,Suruga	4
		brown-orange			Tipo	5
		brown			Mercatelli	6

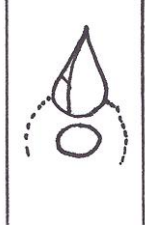
MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>38.b</b> (*) (+) [41]	<b>d</b> <b>Astringent varieties only :</b> <b>Fruit: color of flesh</b>					
	yellow				Damopan	1
	orange-yellow				Aizumishirazu, Atago, Costata, Saijo	2
	orange				Cicopersicon, Farmacista-honorati, Triumph, Yokono	3
	red-orange				Tamamoto, Yotsumizo	4
	brown					5
<b>39.</b> [42]	<b>d</b> <b>Fruit: size of brown specks in flesh</b>					
	absent				Atago, Saijo	1
	small				Fuyu, Jiro	3
	medium				Amahyakume, S hogatsu	5
	large				Nishimurawase, Zenjimar	7
<b>40.</b>	<b>Seed: size</b>					
	small				Gosho	3
	medium				Nishimurawase	5
	large				Atago, Fuyu	7
<b>41.</b> (+)	<b>Seed: shape in profile</b>					
	elliptic				Atago, Mercatelli, Saijo	1
	ovate				Hanagosho, Yokono	2
	broad ovate				Maekawajiro	3
	narrow reniform					4
	broad reniform				Fuyu	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedadesejemplo	Note/ Nota
<b>MoE</b>						
<b>42.</b>	<b>Seed: color</b>					
	green-brown				Saijo	1
	medium-brown				Aizumishirazu,Akagaki	2
	dark-brown				Fuyu,Jiro	3
<b>43.</b> (* (*	<b><u>Femaleflower</u> only: Timeof flowering(80% open)</b>					
	early				Hiratanenashi, Nishimurawase	3
	medium				Izu,Jiro	5
	late				Fuyu,Gosho	7
<b>44.</b>	<b>Timeofvegetative buddburst</b>					
	early				Hiratanenashi	3
	medium				Koshuhyakume	5
	late				Fuyu	7
<b>45.a</b> (* (* (+)	<b><u>Nonastrigent</u> varietiesonly : Timeof ripeness for eating</b>					
	early				Izu,Nishimurawase	3
	medium				Matsumotowase-Fuyu, Mizushima	5
	late				Amahyakume,Fuyu, Gosho	7
<b>45.b</b> (* (* (+)	<b><u>Astringent</u> varietiesonly : Timeof ripeness for eating</b>					
	early				Ichidagaki,Tonewase	3
	medium				Hiratanenashi, Koshuhyakume	5
	late				Aizumishirazu,Atago	7

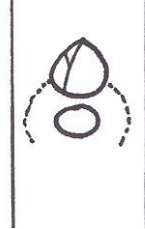
MoE	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>46.</b>	<b>d</b>	<b>Fruit: astringency</b>				
(+)						
[57]						
	always absent, irrespective of presence of seed				Fuyu, Gosho, Jiro	1
	always present, irrespective of presence of seed				Aizumishirazu, Atago, Koshuhyakume, Saijo	2
	presence depending on presence and number of seeds				Nishimurawase, Shogatsu	3
<b>47.</b>		<b>Fruit: change of color of flesh related to seed formation</b>				
(+)						
[58]						
	absent (pollination constant)				Atago, Fuyu, Gosho, Saijo	1
	present (pollination variant)				Aizumishirazu, Nishimurawase	9

8. ExplanationsontheTableofCharacteristics

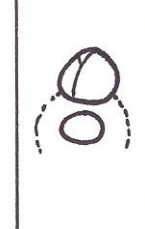
Ad. 10: One-yearoldshoot :s hape ofbudinprofileview



1  
triangular



2  
oblate



3  
elliptic

Ad. 13:Leafblade:shape



1  
elliptic

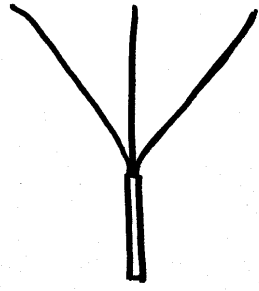


2  
ovate

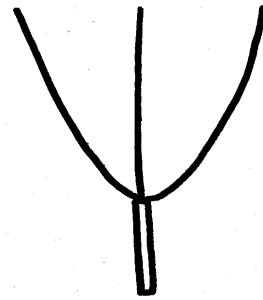


3  
obovate

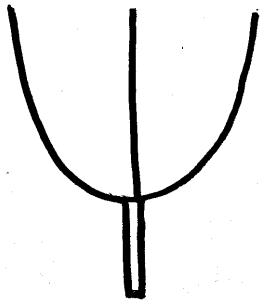
Ad.14: Leafblade:shapeofbase



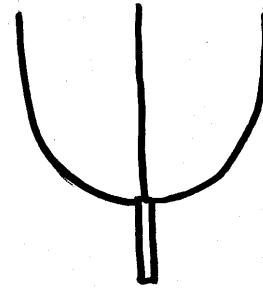
1  
narrowacute



2  
broadacute

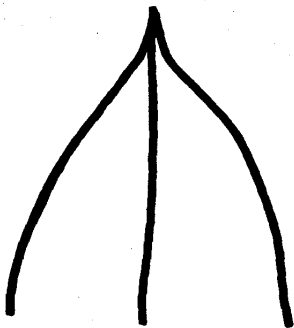


3  
obtuse

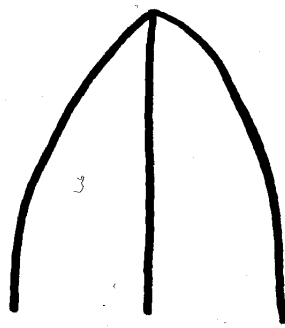


4  
rounded

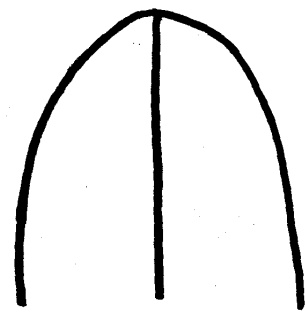
Ad.15: Leafblade: shapeofapex



1  
acuminate

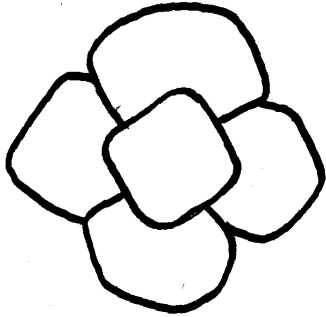


2  
acute

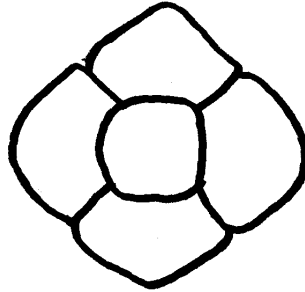


3  
obtuse

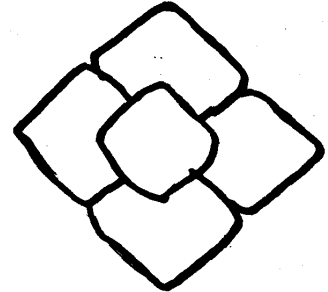
Ad.18: Femaleflower:shapeofcalyxfromtopview



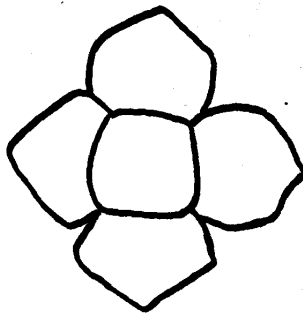
1  
circular



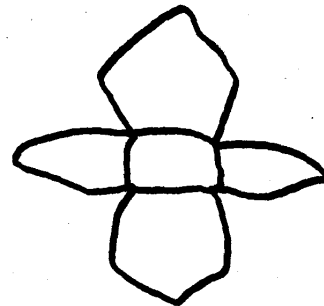
2  
roundedrhombic



3  
rhombic

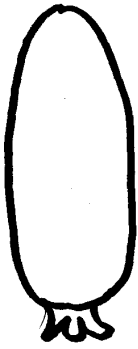


4  
regularcruciform

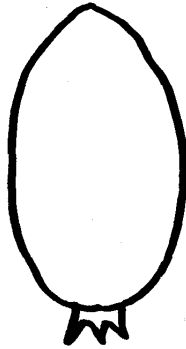


5  
irregularcruciform

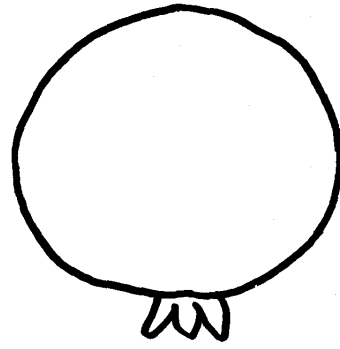
Ad.21: Fruit: generalshapeinlateralview



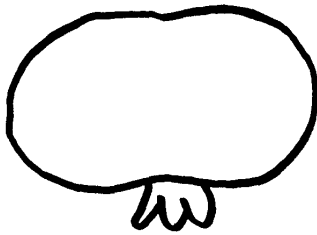
1  
narrowelliptic



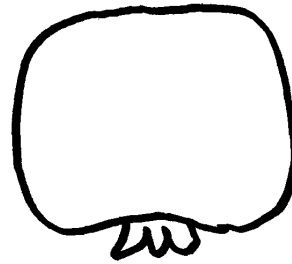
2  
elliptic



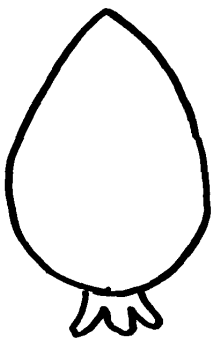
3  
circular



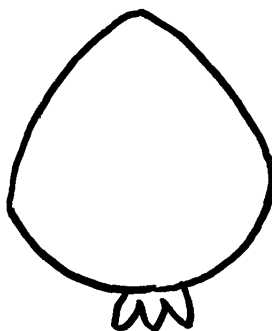
4  
oblate



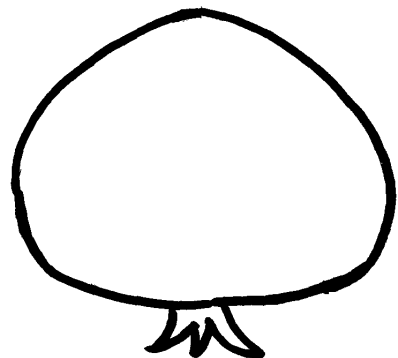
5  
transversebroadoblong



6  
ovate



7  
broadovate



8  
verybroadovate



Ad.22: Fruit: generalshapeincrosssection

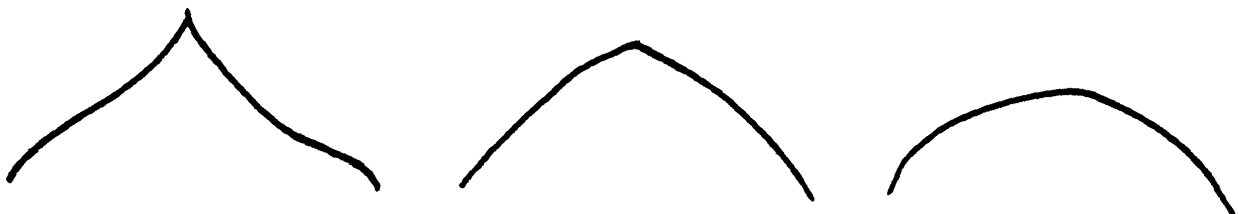


1  
circular

2  
roundedsquare

3  
square

Ad.23: Fruit: shapeofapexinlongitudinalsection



1  
acuminate

2  
acute

3  
rounded

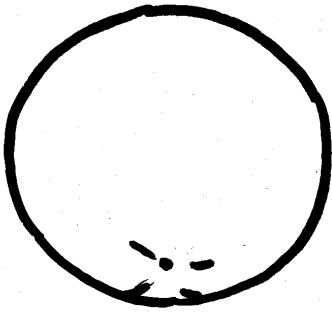


4  
truncate

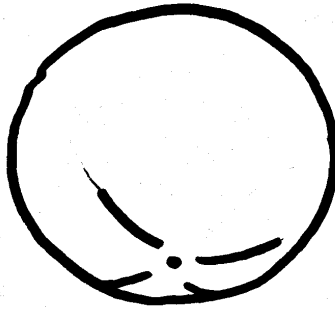


5  
retuse

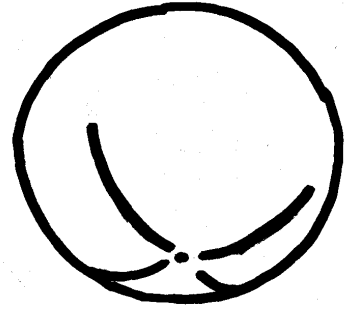
Ad. 24: Fruit: groovingatapex



1  
absentorweak

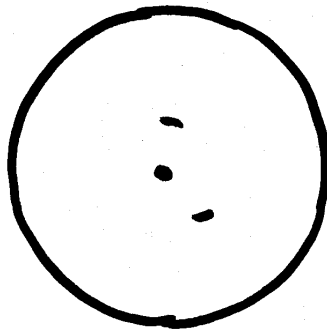


2  
intermediate

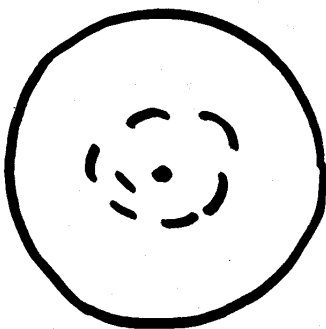


3  
strong

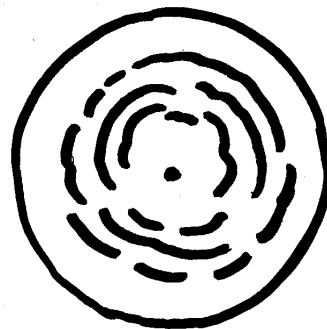
Ad. 25: Fruit: shallowconcentriccrackingaroundapex



1  
absentorweak

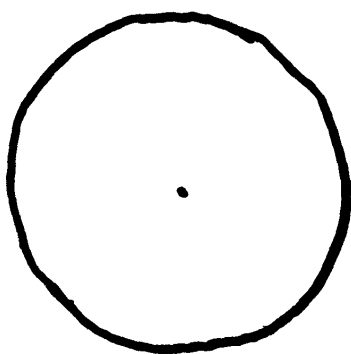


2  
intermediate

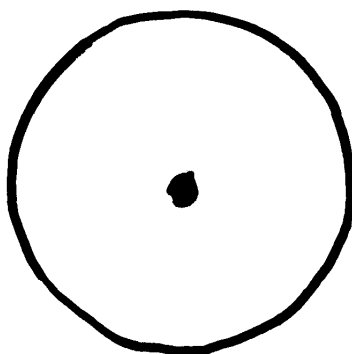


3  
strong

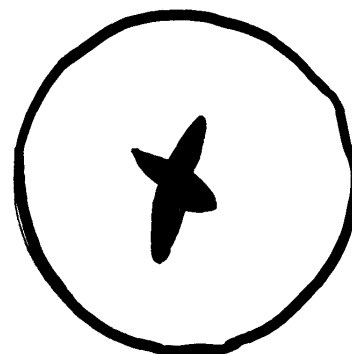
Ad. 26: Fruit : crackingofap ex



1  
absentorweak

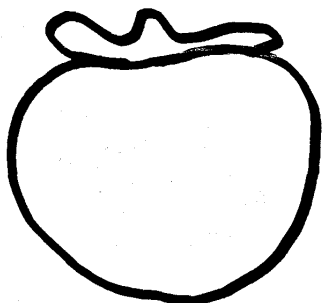


2  
intermediate

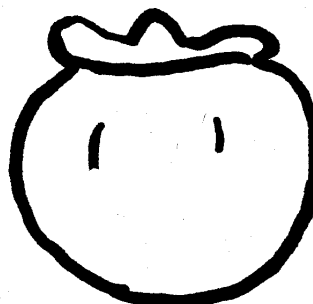


3  
strong

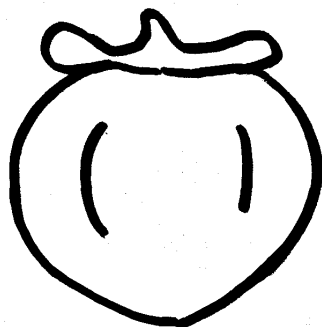
Ad. 27:Fruit : longitudinalgroove



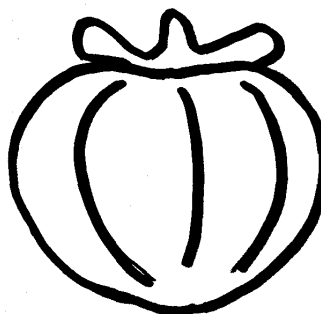
1  
absenttoveryshallow



3  
shallow

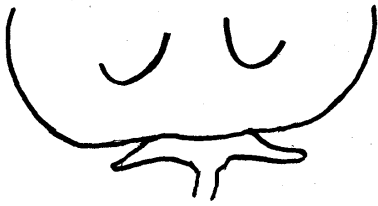


5  
medium

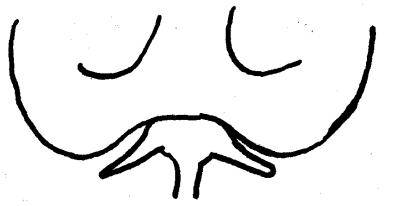


7  
deep

Ad. 29: Fruit: calyxattachment



1  
at level

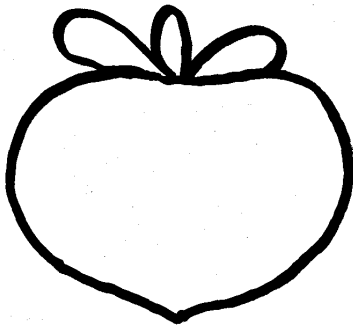


2  
slightly depressed

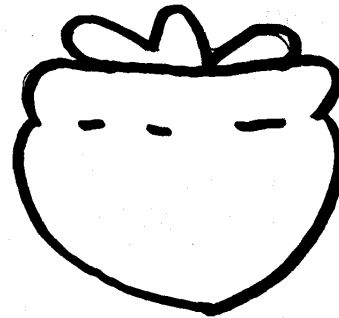


3  
strongly depressed

Ad. 30: Fruit: groove at calyx end

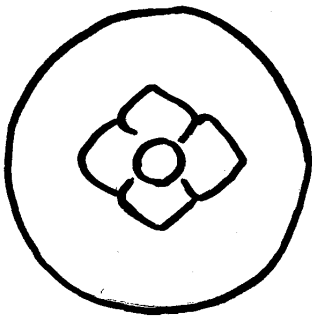


1  
absent

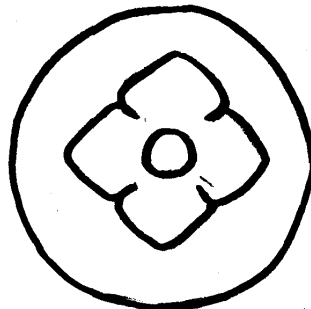


9  
present

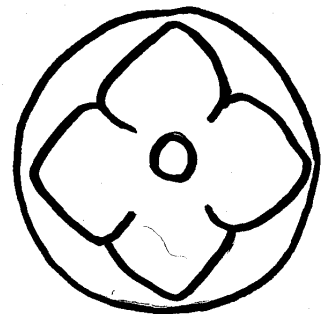
Ad.32: Fruit: calyx size compared with fruit diameter



3  
small

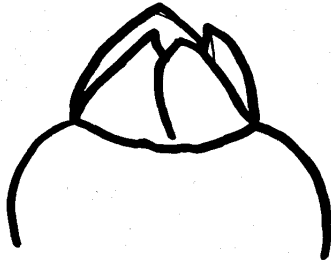


5  
medium

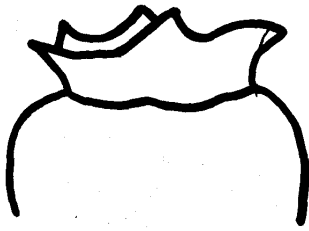


large

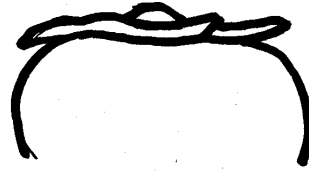
Ad.33: Fruit: attitudeofcalyx



1  
erect



2  
semi-erect



3  
horizontal

Ad.41: Seed: shapeinprofile



1  
elliptic



2  
ovate



3  
broadovate



4  
narrowreniform



5  
broadreniform

Ad.34: Fruit: widthofsepal

Thewidthofsepalshouldbemeasuredas thewidthofthebroadestofthesepals.

Ad.37.a:Nonastrigentvarietiesonly:Fruit:colorofskin

Ad.38.a:Nonastrigentvarietiesonly:Fruit:colorofflesh

Ad.45.a:Nonastrigentvarietiesonly:Timeofripenessforeating

The time o f ripeness for non astringent varieties is reached when the flesh is still firm and the color of skin changes.

Ad.37.b:Astringentvarietiesonly:Fruit:colorofskin

Ad.38.b:Astringentvarietiesonly:Fruit:colorofflesh

Ad.45.b:Astringen t varieties only: Time of ripeness for eating

The time of ripeness for astringent varieties is reached when the flesh becomes soft after post harvest storage. The fruits should be stored in air at normal room temperature (about 15 ° C), without any chemical or other treatments.

Ad.54: Fruit:changeofcoloroffleshrelatedtoseedformation

Pollination constant: The color of flesh never changes. It always remains light colored whether seeded or not.

Pollination variant: The color of flesh is not consistent and is light -colored and completely astringent when seedless, but is dark colored and with the astringency varying when seeded, this being dependent on the number of seeds presence.

Classification of example varieties

Example Varieties	Type of astringency	Example Varieties	Type of astringency
Aizumishirazu	PVA	Kubogataobishi	PVNA
Akagaki	PVNA	Kurogaki	PVNA
Amahyakume	PVNA	Lantern	??
Akoumankaki	PVNA	Maekawajiro	PCNA
Amankaki	??	Meotogaki	PCA
Anzai	PVNA	Mercatelli	PVNA
Atago	PCA	Mikatanigosho	PVNA
Costata	PCA	Mizushima	PVNA
Damopan	PCA	Moriya	PCA
Dojohachiya	PCA	Naganogoshi	PVNA
Eboshi	PCA	Nishimurawase	PVNA
FarmacistaHonorati	PCA	Obishi	PVNA
Fudegaki	PVNA	Ogoshi	PCNA
Fujiwaragosho	PCNA	Okugoshi	PCA
Fuyu	PCNA	Oshorokaki	PVNA
Gionbo	PCA	Saijo	PCA
Goshi	PCNA	Shakokushi	PCA
Hanagosho	PCNA	Sanja	PCA
Hana -fuyu	PCNA	Shogatsu	PVNA
Hazegosho	PCNA	Square	??
Hiratanenashi	PVA	Suruga	PCNA
Hoshomaru	PVA	Takura	PCA
Ichidagaki	PCA	Toyoka	PVNA
Izu	PCNA	Tsurunohashi	PCA
Jiro	PCNA	Yamato	PCA
Tipo	PVNA	Yokono	PCA
Koshuhyakume	PVA	Yotsumizo	PCA
Kubo	PVNA	Zenjimaruru	PVNA

PV: pollinationvariant

PC: pollinationconstant

A: astringent

NA: nonastringent

Synonyms and astringent type of the example varieties

<b>Example Varieties</b>	<b>Synonyms</b>	<b>Type of astringent</b>
Aizumishirazu	Mishirazu,Sainenji,Aizugaki	PVA
Akagaki	Tohachi,Sakigake	PVNA
Amahyakume	Daidaimaru,Edoichi,Bikunimaru,Tokyogaki	PVNA
Damopan	Tamopan	PCA
Dojohachiya	Dojo	PCA
Fudegaki	Chinpogaki	PVNA
Gionbo	Shotenbo	PCA
Gosho	Yamatogosho	PCNA
Hanagosho	Gorosukegaki,Shimogosho	PCNA
Hazegosho	Fukurogosho	PCNA
Hiratanenashi	Hacchin,Syonaigaki,Okesagaki	PVA
Koshuhyakume	Fuji,Hyakume,Shibuhyakume,Daishiro,Edogaki, Fujisan	PVA
Moriya	Muiya, Moiya	PCA
Obishi	Enza	PVNA
Shakokshi	Sakokushi,Shakokubanshi,Gijoshakokusi	PCA
Shogatsu	Koharu,Gozen,Akaguma	PVNA
Yamato	Bonbori,Aoyata	PCA
Yotsumizo	Mizogaki	PCA
Zenjimar	Kizagaki,Edagaki	PVNA



## 9. Literature

Kozaki, I., Ueno, I. et al. (1995), The Fruit in Japan (with English summary). Tokyo, Japan : Yokendo, 423p.

Kitagawa, H., Glucina, P. E. (1984), Persimmon culture in New Zealand. Wellington, New Zealand, Science Information Publishing Center.

Condit, I. J. (1919), The kaki or oriental persimmon, USA, College of agriculture, Agricultural Experiment Station, Bulletin No. 316, p229 -266, University of California Press.

Hume, H. H. (1914), A Kaki classification, Journal of Heredity, 5, p400 -406.

Bellini, E., Giannelli, G. (1982), New directions in growing kaki, Informatore agrario, Vol. 38, No. 4, p19027 -19044.

Nagamine, T., Takeda, H. (1999), The descriptors for characterization and evaluation in plant genetic resources, Vol. 1, p370 -375, Japan, National Institute of Agrobiological Resources, MAFF.

Cultivation and evaluation of fruit tree PGR (1996), Technical assistance activities for genetic resources projects ref. No. 9, p57 -68, Japan: Japan International Cooperation Agency (JICA).

Japanese National Test Guidelines for persimmon (1979).

10. TechnicalQuestionnaire

TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
		Applicationdate: (nottobefilledinbytheapplicant)
<b>TECHNICALQUESTIONNAIRE</b> tobecompletedinconnectionwithanapplicationforplantbreeders'ri ghts		
1. SubjectoftheTechnicalQuestionnaire		
1.1 LatinName	<input type="text" value="Diospyroskaki L."/>	
1.2 CommonName	<input type="text" value="PERSIMMON"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
TelephoneNo.	<input type="text"/>	
FaxNo.	<input type="text"/>	
E-mailaddress	<input type="text"/>	
Breeder(ifdiffe rentfromapplicant)	<input type="text"/>	
3. Proposeddenominationandbreeder'sreference		
Proposeddenomination (ifavailable)	<input type="text"/>	
Breeder'sreference	<input type="text"/>	

TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
4. Informationonthebreedingschemeandpropagationofthevariety		
4.1 BreedingScheme		
4.1.1 Varietyresultingfrom:		
(a) controlledcross (pleasestateparentvarieties)		<input type="checkbox"/>
(b) partiallyunknowncross (pleasestateknownparentvariety(ies))		<input type="checkbox"/>
(c) totallyunknowncross		<input type="checkbox"/>
4.1.2 Mutation (pleasestateparentvariety)		<input type="checkbox"/>
4.1.3 Discovery (pleasestatewhere,whenandhowdeveloped)		<input type="checkbox"/>
4.1.4 Other (pleaseprovidedetails)		<input type="checkbox"/>
4.2 MethodofPropagatingtheVariety		
4.2.1 <i>In vitro</i> propagation		
Theplantmaterialofthecandidatevarietyhasbeenobtained by <i>in vitro</i> propagation	yes	<input type="checkbox"/>
	no	<input type="checkbox"/>
4.2.2 Other type of multiplication (seed, leaf cutting, hardwood cutting, layer): (pleasespecify)		<input type="checkbox"/>
.....		
4.3 Virusstatus		
4.3.1 Thevarietyisfreefromallknownvirusesasfollows: (indicatefromwhichviruses)		<input type="checkbox"/>
.....		
4.3.2 Theplantmaterialisvirustested: (indicateagainstwhichviruses)		<input type="checkbox"/>
.....		
4.3.3 Thevirusstatusisunknown		<input type="checkbox"/>

TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
<p>5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).</p>		
Characteristics	Example Varieties	Notes
<p><b>5.1 Fruit: general shape in lateral view (21)</b></p>		
narrow elliptic		1[]
elliptic	Saijo	2[]
circular	Aizumishirazu, Amahyakume	3[]
oblate	Fuyu, Izu, Jiro	4[]
transverse broad oblong	Hiratanenashi	5[]
ovate	Atago, Yotsumizo	6[]
broad ovate	Koshuhyakume	7[]
very broad ovate	Hanagoshi	8[]
<p><b>5.2 <u>Nonstringent varieties only</u> : Fruit: color of skin (37.a)</b></p>		
yellow-orange	Shogatsu	1[]
orange	Hazegoshi, Yamatogoshi	2[]
orange-red	Fuyu, Izu, Jiro, Nishimurawase	3[]
dark purple	Kurogaki	4[]
<p><b>5.3 <u>Astringent varieties only</u> : Fruit: color of skin (37.b)</b></p>		
yellow-orange	Gionbo, Saijo	1[]
orange	Aizumishirazu, Hiratanenashi	2[]
red-orange	Koshuhyakume	3[]
<p><b>5.4 <u>Nonstringent varieties only</u> : Time of ripeness for eating (45.a)</b></p>		
early	Izu, Nishimurawase	3[]
medium	Matsumotowase-Fuyu, Mizushima	5[]
late	Amahyakume, Fuyu, Gosho	7[]



TECHNICALQUESTIONNAIRE	Page{x}of{y}	ReferenceNumber:
<p>7. Additional information which may help in the examination of the variety</p> <p>7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>(If yes, please provide details)</p> <p>7.2 Special conditions for the examination of the variety</p> <p>7.2.1 Are there any special conditions for growing the variety or conducting the examination?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>7.2.2 If yes, please give details:</p> <p>7.3 Other information</p>		
<p>8. Authorization for release</p> <p>(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>(b) Has such authorization been obtained?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p>If the answer to (b) is yes, please attach a copy of the authorization.</p>		
<p>9. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:</p> <p>Applicant's name <input type="text"/></p> <p>Signature <input type="text"/> Date <input type="text"/></p>		

[End of document]