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## INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

DRAFT

## JAPANESE PEAR

UPOV Code(s): PYRUS\_PYR\_CUL

*Pyrus pyrifolia* (Burm. f.) Nakai var. *culta*  
(Mak.) Nakai

## GUIDELINES

## FOR THE CONDUCT OF TESTS

## FOR DISTINCTNESS, UNIFORMITY AND STABILITY

*prepared by experts from Japan  
to be considered by the  
Technical Working Party for Fruit Crops  
at its fifty-fifth session, to be held virtually  
from 2024-06-03 to 2024-06-06*

*Disclaimer: this document does not represent UPOV policies or guidance*

Alternative names:\*

Botanical name	English	French	German	Spanish
<i>Pyrus pyrifolia</i> (Burm. f.) Nakai var. <i>culta</i> (Mak.) Nakai	Japanese Pear	Poirier Japonais	Japanische Birne	Peral japonés

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

## ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General Introduction and its associated TGP documents.

Other associated UPOV documents:

TG/169/3 + Corr. Pyrus Rootstocks

\* 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 Test Guidelines

These Test Guidelines apply to all varieties of *Pyrus pyrifolia* (Burm. f.) Nakai var. *culta* (Mak.) Nakai and interspecific hybrids as far as they are morphologically similar to *Pyrus pyrifolia* (Burm. f.) Nakai var. *culta* (Mak.) Nakai, except for varieties used only as rootstock varieties (see TG/169/3 + Corr.).

## 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 trees grafted on rootstocks specified by the competent authority.
- 2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:
  - (a) varieties resulting from crossing: 5
  - (b) varieties resulting from mutation: 10
- 2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.
- 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 *Number of Growing Cycles*

- 3.1.1 The minimum duration of tests should normally be two independent growing cycles.
- 3.1.2 The two independent growing cycles may be observed from a single planting, examined in two separate growing cycles.
- 3.1.3 In particular, it is essential that the trees produce a satisfactory crop of fruit in each of the two growing cycles.
- 3.1.4 The growing cycle is considered to be the duration of a single growing season, beginning with bud burst (flowering and/or vegetative), flowering and fruit harvest and concluding when the following dormant period ends with the swelling of new season buds.
- 3.1.5 The testing of a variety may be concluded when the competent authority can determine with certainty the outcome of the test.

### 3.2 *Testing Place*

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 "Examining Distinctness".

### 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.
- 3.3.2 Because daylight varies, color determinations made against a color chart should be made either in a suitable cabinet providing artificial daylight or in the middle of the day in a room without direct sunlight. The spectral distribution of the illuminant for artificial daylight should conform with the CIE Standard of Preferred Daylight D 6500 and should fall within the tolerances set out in the British Standard 950, Part I. These determinations should be made with the plant part placed against a white background. The color chart and version used should be specified in the variety description.

### 3.4 *Test Design*

3.4.1 In the case of varieties resulting from crossing, each test should be designed to result in a total of at least 5 plants.

3.4.2 In the case of varieties resulting from mutation, each test should be designed to result in a total of at least 10 plants.

### 3.5 *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 differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

#### 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.

#### 4.1.4 Number of Plants or Parts of Plants to be Examined

Unless otherwise indicated, for the purposes of distinctness, all observations on single plants should be made on 3 plants or parts of plants taken from each of 3 plants and any other observations made on all plants in the test, disregarding any off-type plants.

In the case of observations of parts taken from single plants, the number of parts to be taken from each of the plants should be 2.

#### 4.1.5 Method of Observation

The recommended method of observing the characteristic for the purposes of distinctness is indicated by the following key in the Table of Characteristics (see document TGP/9 "Examining Distinctness", Section 4 "Observation of characteristics"):

MG: single measurement of a group of plants or parts of plants

MS: measurement of a number of individual plants or parts of plants

VG: visual assessment by a single observation of a group of plants or parts of plants

VS: visual assessment by observation of individual plants or parts of plants

Type of observation: visual (V) or measurement (M)

“Visual” observation (V) is an observation made on the basis of the expert’s judgment. For the purposes of this document, “visual” observation refers to the sensory observations of the experts and, therefore, also includes smell, taste and touch. Visual observation includes observations where the expert uses reference points (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts). Measurement (M) is an objective observation against a calibrated, linear scale e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.

Type of record: for a group of plants (G) or for single, individual plants (S)

For the purposes of distinctness, observations may be recorded as a single record for a group of plants or parts of plants (G), or may be recorded as records for a number of single, individual plants or parts of plants (S). In most cases, “G” provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

In cases where more than one method of observing the characteristic is indicated in the Table of Characteristics (e.g. VG/MG), guidance on selecting an appropriate method is provided in document TGP/9, Section 4.2.

## 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. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

4.2.2 These Test Guidelines have been developed for the examination of vegetatively propagated varieties. For varieties with other types of propagation, the recommendations in the General Introduction and document TGP/13 "Guidance for new types and species" Section 4.5 "Testing Uniformity" should be followed.

4.2.3 For the assessment of uniformity of varieties resulting from crossing, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 5 plants, no off-types are allowed.

4.2.4 For the assessment of uniformity of varieties resulting from mutation, a population standard of 1% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 10 plants, 1 off-type is allowed.

## 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 further examined by testing a new plant stock to ensure that it exhibits the same characteristics as those shown by the initial 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 are 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 other 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 trial so that similar varieties are grouped together.
- 5.3 The following have been agreed as useful grouping characteristics:
- (a) Fruit: weight (characteristic 30)
  - (b) Fruit: shape in lateral view (characteristic 34)
  - (c) Fruit: type of skin (characteristic 35)
  - (d) Fruit: ground color of skin (characteristic 36)
  - (e) Fruit: color of russet (characteristic 37)
  - (f) Time for harvest maturity (characteristic 60)
- 5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction and document TGP/9 "Examining Distinctness".

## 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*

6.2.1 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.

6.2.2 All relevant states of expression are presented in the characteristic.

6.2.3 Further explanation of the presentation of states of expression and notes is provided in document TGP/7 "Development of Test Guidelines".

### 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

	English			français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1	2	3	4	5	6	7		
	<b>Name of characteristics in English</b>			<b>Nom du caractère en français</b>	<b>Name des Merkmals auf Deutsch</b>	<b>Nombre del carácter en español</b>		
	states of expression			types d'expression	Ausprägungsstufen	tipos de expresión		

- 1 Characteristic number
- 2 (\*) Asterisked characteristic – see Chapter 6.1.2
- 3 Type of expression
  - QL Qualitative characteristic – see Chapter 6.3
  - QN Quantitative characteristic – see Chapter 6.3
  - PQ Pseudo-qualitative characteristic – see Chapter 6.3
- 4 Method of observation (and type of plot, if applicable)  
 MG, MS, VG, VS – see Chapter 4.1.5
- 5 (+) See Explanations on the Table of Characteristics in Chapter 8.2
- 6 (a)-(c) See Explanations on the Table of Characteristics in Chapter 8.1
- 7 Not applicable

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>1. (*)</b>	<b>QN</b>   <b>VG</b>					
	<b>Tree: vigor</b>					
	very weak					1
	weak				Yakumo	2
	medium				Hosui, Kosui, Shinseiki	3
	strong				Shinsui	4
	very strong					5
<b>2. (*)</b>	<b>PQ</b>   <b>VG</b>	<b>(+)</b>	<b>(a)</b>			
	<b>Tree: habit</b>					
	fastigate					1
	upright				Shinsui	2
	spreading				Niitaka	3
	drooping				Chojuro	4
	weeping					5
<b>3.</b>	<b>QN</b>   <b>MS/VG</b>	<b>(+)</b>	<b>(a)</b>			
	<b>One-year-old shoot: length of internodes</b>					
	short					1
	short to medium				Nijisseiki, Shinsui	2
	medium				Hosui	3
	medium to long				Kosui	4
	long					5
<b>4. (*)</b>	<b>PQ</b>   <b>VG</b>		<b>(a)</b>			
	<b>One-year-old shoot: color on sunny side</b>					
	dark purple				Oharabeni	1
	brown				Chojuro, Niitaka	2
	orange brown					3
	greenish brown				Gold Nijisseiki	4
	blackish brown				Hosui	5



	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>5.</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>	<b>(a)</b>			
		<b>One-year-old shoot: density of lenticels</b>					
		very few					1
		few				Choju	2
		medium				Gold Nijisseiki, Hosui, Kosui, Niitaka	3
		many				Shinko, Shinseiki	4
		very many					5
<b>6.</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>	<b>(a)</b>			
		<b>One-year-old shoot: size of lenticels</b>					
		small					1
		small to medium				Chojuro, Shinseiki	2
		medium				Gold Nijisseiki, Hosui, Kosui	3
		medium to large				Niitaka, Shinsui	4
		large					5
<b>7.</b>		<b>QN</b>	<b>VG</b>	<b>(a)</b>			
		<b>One-year-old shoot: pubescence</b>					
		absent or very weak				Hosui, Kosui	1
		weak					2
		medium				Shinko	3
		strong					4
		very strong				Gold Nijisseiki	5
<b>8.</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>				
		<b>Branch: number of spurs</b>					
		few				Kosui	1
		few to medium					2
		medium				Hosui	3
		medium to many					4
		many				Gold Nijisseiki, Shinko, Shinsui	5

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>9</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>			
		<b>Vegetative bud: position relative to shoot</b>					
		adpressed				Kosui, Shinsui	1
		slightly held out				Chojuro, Hosui, Nijisseiki	2
		markedly held out				Niitaka, Shinko	3
<b>10</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>			
		<b>Vegetative bud: shape of tip</b>					
		pointed				Gold Nijisseiki, Kosui	1
		slightly rounded				Hosui, Shinko	2
		strongly rounded				Shinsui	3
<b>11</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>	<b>(a)</b>			
		<b>One-year-old shoot: number of axillary flower buds</b>					
		very few					1
		few				Gold Nijisseiki, Shinsui	2
		medium				Kosui, Shinseiki	3
		many				Chojuro, Hosui	4
		very many					5
<b>12</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>				
		<b>Flower bud: shape</b>					
		narrow elliptic				Hosui	1
		broad elliptic				Shinsui	2
		round				Aikansui, Shinseiki	3
		ovate				Chojuro, Gold Nijisseiki, Kosui	4
<b>13</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>				
		<b>Young leaf: color of upper side</b>					
		yellow green				Chikusui, Shinseiki	1
		greenish brown				Yakumo	2
		brown				Gold Nijisseiki, Hosui, Kosui	3
		red brown				Shinko, Shinsui	4

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>14 (*)</b>	<b>QN</b>   <b>VG</b>					
	<b>Young leaf: intensity of pubescence on lower side</b>					
	very weak					1
	weak				Hosui, Kosui, Shinsui	2
	medium				Aikansui, Chojuro, Niitaka	3
	strong				Gold Nijisseiki, Shinseiki	4
	very strong					5
<b>15 (*)</b>	<b>QN</b>   <b>MS/VG</b>	<b>(b)</b>				
	<b>Leaf blade: length</b>					
	very short					1
	very short to short					2
	short				Hosui, Shinsui	3
	short to medium					4
	medium				Gold Nijisseiki, Kosui	5
	medium to long					6
	long					7
	long to very long					8
	very long					9
<b>16 (*)</b>	<b>QN</b>   <b>MS/VG</b>	<b>(b)</b>				
	<b>Leaf blade: width</b>					
	very narrow					1
	very narrow to narrow					2
	narrow				Hosui, Shinko	3
	narrow to medium					4
	medium				Shinsui	5
	medium to broad					6
	broad				Niitaka	7
	broad to very broad					8
	very broad					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>17</b>	<b>(*) QN MS/VG</b>	<b>(b)</b>				
	<b>Leaf blade: ratio length/width</b>					
	very low					1
	very low to low					2
	low				Niitaka	3
	low to medium					4
	medium				Hosui	5
	medium to high					6
	high					7
	high to very high					8
	very high					9
<b>18</b>	<b>PQ VG</b>	<b>(+) (b)</b>				
	<b>Leaf blade: incisions of margin</b>					
	serrate					1
	dentate					2
	crenate					3
<b>19</b>	<b>(*) QN MS/VG</b>	<b>(b)</b>				
	<b>Petiole: length</b>					
	very short					1
	very short to short					2
	short				Niitaka, Shinko	3
	short to medium				Gold Nijisseiki	4
	medium				Tama	5
	medium to long					6
	long				Yakumo	7
	long to very long					8
	very long					9

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>20</b>	<b>QN</b>	<b>MS/VG</b>	<b>(b)</b>			
	<b>Petiole: length relative to length of blade</b>					
	very small					1
	very small to small					2
	small				Kikusui, Niitaka	3
	small to medium					4
	medium				Hosui, Kosui	5
	medium to large					6
	large				Yakumo	7
	large to very large					8
	very large					9
<b>21 (*)</b>	<b>QN</b>	<b>MS</b>				
	<b>Inflorescence: number of flowers</b>					
	few					1
	few to medium					2
	medium				Chojuro, Hosui, Shinsui	3
	medium to many					4
	many				Gold Nijisseiki, Kosui	5
<b>22 (*)</b>	<b>PQ</b>	<b>VG</b>				
	<b>Petal: color of outer side just before opening of flower</b>					
	white				Niitaka, Shinko, Shinseiki	1
	light pink				Hosui, Kosui, Shinsui	2
	medium pink				Choju	3
	light red				Oharabeni	4
<b>23 (*)</b>	<b>QN</b>	<b>MS/VG</b>	<b>(c)</b>			
	<b>Flower: diameter</b>					
	small				Atago	1
	small to medium					2
	medium				Chojuro, Gold Nijisseiki, Shinsui	3
	medium to large					4
	large				Hosui, Kosui	5

	English		français		deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>24</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>	<b>(c)</b>			
		<b>Petal: shape</b>						
		elliptic					Kosui	1
		round					Chojuro, Gold Nijisseiki, Niitaka	2
		ovate					Hosui, Shinko	3
<b>25</b>		<b>QN</b>	<b>VG</b>	<b>(+)</b>	<b>(c)</b>			
		<b>Petal: number of notches on margin</b>						
		absent or few					Aikansui, Niitaka	1
		medium					Gold Nijisseiki, Hosui, Kosui, Shinsui	2
		many					Chojuro, Shinseiki	3
<b>26</b>	<b>(*)</b>	<b>QN</b>	<b>MS/VG</b>		<b>(c)</b>			
		<b>Flower: number of stamens</b>						
		very few						1
		few					Chojuro	2
		medium					Hosui, Niitaka	3
		many					Kikusui, Kosui	4
		very many						5
<b>27</b>		<b>QN</b>	<b>VG</b>	<b>(+)</b>				
		<b>Anther: intensity of red color</b>						
		light					Kosui, Niitaka	1
		medium					Hosui, Shinsui	2
		dark					Gold Nijisseiki, Shinko	3
<b>28</b>	<b>(*)</b>	<b>QL</b>	<b>VG</b>					
		<b>Anther: pollen</b>						
		absent					Ishiiwase, Kumoi, Niitaka	1
		present					Chojuro, Hosui, Kosui, Nijisseiki, Shinsui	9

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>29</b>	<b>QN</b>	<b>VG</b>	<b>(c)</b>				
	<b>Pedicele: pubescence</b>						
		very weak					1
		weak					2
		medium				Hosui, Kosui	3
		strong				Nijisseiki, Shinko, Shinseiki	4
		very strong					5
<b>30</b>	<b>(*)</b>	<b>QN</b>	<b>MG/MS</b>				
	<b>Fruit: weight</b>						
		very low					1
		very low to low					2
		low				Shinsui	3
		low to medium					4
		medium				Chojuro, Gold Nijisseiki, Kosui	5
		medium to high					6
		high				Hosui, Shinko	7
		high to very high				Niitaka	8
		very high				Atago	9
<b>31</b>	<b>(*)</b>	<b>QN</b>	<b>MS</b>	<b>(+)</b>			
	<b>Fruit: height</b>						
		very short					1
		very short to short					2
		short				Shinsui	3
		short to medium					4
		medium				Kosui	5
		medium to tall				Gold Nijisseiki, Hosui	6
		tall				Niitaka, Shinko	7
		tall to very tall				Atago	8
		very tall					9

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>32</b>	<b>(*)</b>	<b>QN</b>	<b>MS</b>	<b>(+)</b>			
		<b>Fruit: diameter</b>					
		very small					1
		very small to small					2
		small					3
		small to medium				Shinsui	4
		medium				Gold Nijisseiki, Kosui	5
		medium to large					6
		large				Hosui, Shinko	7
		large to very large				Niitaka	8
		very large				Atago	9
<b>33</b>	<b>(*)</b>	<b>QN</b>	<b>MS</b>	<b>(+)</b>			
		<b>Fruit: ratio height/diameter</b>					
		very low					1
		very low to low					2
		low				Shinsui	3
		low to medium				Atago, Hosui, Kosui, Niitaka	4
		medium				Gold Nijisseiki, Shinko	5
		medium to high					6
		high					7
		high to very high					8
		very high					9
<b>34</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>			
		<b>Fruit: shape in lateral view</b>					
		broad ovate					1
		spindle-shaped					2
		broad elliptic				Yakumo	3
		round				Hosui	4
		oblate				Shinsui	5
		obovate				Yasato	6
<b>35</b>	<b>(*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>			
		<b>Fruit: type of skin</b>					
		green				Gold Nijisseiki	1
		intermediate				Chikusui, Kosui	2
		russet				Hosui, Niitaka, Shinko	3



	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>36 (*)</b>	<b>PQ</b>	<b>VG</b>				
	<b>Fruit: ground color of skin</b>					
	not visible				Hosui, Niitaka, Shinko	1
	green					2
	light yellow green				Yakumo	3
	dark yellow green				Gold Nijisseiki	4
<b>37 (*)</b>	<b>PQ</b>	<b>VG</b>				
	<b>Fruit: color of russet</b>					
	absent					1
	yellow brown				Chikusui	2
	yellowish red brown				Hosui, Kosui, Shinko	3
	red brown				Chojuro	4
<b>38 (*)</b>	<b>QN</b>	<b>VG</b>				
	<b>Fruit: size of lenticels</b>					
	small				Shinseiki, Yakumo	1
	small to medium					2
	medium				Gold Nijisseiki, Hosui, Kosui, Niitaka	3
	medium to large					4
	large				Kimizuka Wase	5
<b>39 (*)</b>	<b>QN</b>	<b>VG</b>				
	<b>Fruit: density of lenticels</b>					
	very sparse					1
	sparse					2
	medium				Kosui, Shinko	3
	dense				Gold Nijisseiki, Hosui, Niitaka	4
	very dense					5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>40</b>	<b>(*) QN VG</b>					
	<b>Excluding varieties with skin of green type: Fruit: surface texture of russet area</b>					
	very smooth					1
	smooth				Shinsui	2
	medium				Kosui, Niitaka, Shinko	3
	rough				Hosui	4
	very rough					5
<b>41</b>	<b>(*) QN MS</b>	<b>(+)</b>				
	<b>Fruit: depth of stalk cavity</b>					
	shallow					1
	shallow to medium				Gold Nijisseiki	2
	medium				Kosui	3
	medium to deep					4
	deep					5
<b>42</b>	<b>(*) QN MS</b>	<b>(+)</b>				
	<b>Fruit: width of stalk cavity</b>					
	narrow					1
	narrow to medium					2
	medium				Gold Nijisseiki, Hosui	3
	medium to broad				Shinko	4
	broad				Aikansui	5
<b>43</b>	<b>(*) QN MS</b>	<b>(+)</b>				
	<b>Fruit: depth of calyx basin</b>					
	shallow					1
	shallow to medium				Aikansui	2
	medium				Hosui	3
	medium to deep				Shinsui	4
	deep					5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>44 (*)</b>	<b>QN MS</b>	<b>(+)</b>				
	<b>Fruit: width of calyx basin</b>					
	narrow					1
	narrow to medium				Chikusui	2
	medium				Gold Nijisseiki, Hosui	3
	medium to broad					4
	deep				Kosui, Niitaka, Shinsui	5
<b>45</b>	<b>QN VG</b>	<b>(+)</b>				
	<b>Fruit: persistence of calyx</b>					
	absent or weak				Gold Nijisseiki, Hosui, Kosui	1
	medium				Yasato	2
	strong				Akizuki	3
<b>46 (*)</b>	<b>QN MS/VG</b>					
	<b>Fruit: length of stalk</b>					
	short				Chikusui	1
	short to medium					2
	medium				Gold Nijisseiki, Hosui, Kosui	3
	medium to long					4
	long				Okusankichi	5
<b>47 (*)</b>	<b>QN MS/VG</b>	<b>(+)</b>				
	<b>Fruit: thickness of stalk</b>					
	thin				Hosui	1
	thin to medium					2
	medium				Kosui, Niitaka	3
	medium to thick					4
	thick				Gold Nijisseiki	5
<b>48 (*)</b>	<b>QL VG</b>	<b>(+)</b>				
	<b>Fruit: swelling of stalk</b>					
	absent				Hosui, Niitaka, Shinko	1
	present				Gold Nijisseiki, Kosui	9

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>49 (*)</b>	<b>PQ</b>	<b>VG</b>	<b>(+)</b>				
	<b>Fruit: shape of core</b>						
	narrow ovate					Yakumo	1
	broad ovate					Kosui	2
	narrow spindle-shaped					Kumoi	3
	broad spindle-shaped					Gold Nijisseiki, Hosui, Niitaka	4
<b>50 (*)</b>	<b>QN</b>	<b>MS/VG</b>	<b>(+)</b>				
	<b>Fruit: ratio width of core/diameter of fruit</b>						
	very small						1
	small					Kosui	2
	medium					Gold Nijisseiki, Hosui	3
	large					Shinko	4
	very large						5
<b>51 (*)</b>	<b>QL</b>	<b>VG</b>					
	<b>Fruit: number of locules</b>						
	only 5					Gold Nijisseiki, Hosui, Niitaka	1
	more than 5					Kosui	2
<b>52 (*)</b>	<b>PQ</b>	<b>VG</b>					
	<b>Fruit: color of flesh</b>						
	white					Hosui, Niitaka	1
	yellowish white					Gold Nijisseiki	2
	whitish yellow					Shinko	3
<b>53 (*)</b>	<b>QN</b>	<b>MS/VG</b>	<b>(+)</b>				
	<b>Fruit: firmness of flesh</b>						
	soft					Gold Nijisseiki, Kosui	1
	soft to medium						2
	medium					Niitaka	3
	medium to firm						4
	firm					Chojuro	5

	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>54</b>	<b>QN</b>   <b>VG</b>					
	<b>Fruit: texture of flesh</b>					
	fine				Hosui, Kosui	1
	fine to medium					2
	medium				Shinko, Shinsui	3
	medium to coarse					4
	coarse				Chojuro	5
<b>55</b>	<b>QN</b>   <b>MG</b>	<b>(+)</b>				
	<b>Fruit: sweetness</b>					
	very low					1
	low				Kumoi	2
	medium				Gold Nijisseiki, Shinko	3
	high				Hosui, Shinsui	4
	very high					5
<b>56</b>	<b>QN</b>   <b>MG</b>	<b>(+)</b>				
	<b>Fruit: acidity</b>					
	very low					1
	low				Kosui	2
	medium				Shinsui	3
	high				Hosui	4
	very high					5
<b>57</b>	<b>QN</b>   <b>MS/VG</b>					
	<b>Seed: size</b>					
	small					1
	small to medium				Chikusui	2
	medium				Gold Nijisseiki, Hosui, Kosui	3
	medium to large				Niitaka	4
	large					5
<b>58</b>	<b>PQ</b>   <b>VG</b>	<b>(+)</b>				
	<b>Seed: shape</b>					
	broad ovate				Gold Nijisseiki, Hosui, Niitaka	1
	narrow ovate				Shinko	2
	sickle shaped					3

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>59</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>	<b>(+)</b>			
		<b>Time of beginning of flowering</b>					
		very early					1
		very early to early					2
		early				Niitaka	3
		early to medium					4
		medium				Gold Nijisseiki, Hosui, Shinsui	5
		medium to late					6
		late				Kosui, Okusankichi	7
		late to very late					8
		very late					9
<b>60</b>	<b>(*)</b>	<b>QN</b>	<b>VG</b>	<b>(+)</b>			
		<b>Time for harvest maturity</b>					
		very early					1
		very early to early				Aikansui	2
		early				Shinsui	3
		early to medium					4
		medium				Gold Nijisseiki, Hosui	5
		medium to late					6
		late				Niitaka	7
		late to very late				Shinko	8
		very late				Okusankichi	9
<b>61</b>		<b>QL</b>	<b>VG</b>	<b>(+)</b>			
		<b>Self-compatibility</b>					
		absent				Gold Nijisseiki, Hosui, Kosui, Niitaka	1
		present				Osa Gold, Osa Nijisseiki	9
<b>62</b>		<b>QL</b>	<b>VG</b>	<b>(+)</b>			
		<b>Resistance to black spot (<i>Alternaria alternata</i> Japanese pear pathotype)</b>					
		absent				Nansui, Nijisseiki, Osa Nijisseiki, Shinsui	1
		present				Hosui, Kosui, Niitaka	9

	English		français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>63</b>	<b>QL</b>	<b>VG</b>	<b>(+)</b>				
	<b>Resistance to Japanese pear scab (<i>Ventura nashicola</i>)</b>						
	absent					Gold Nijisseiki, Hosui, Kosui, Niitaka	1
	present					Kinchaku	9

8. Explanations on the Table of Characteristics

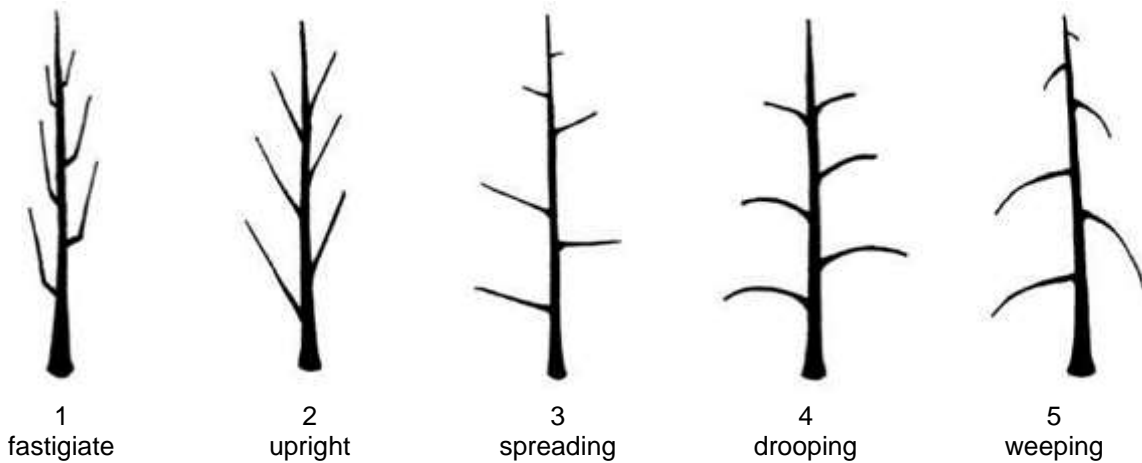
8.1 *Explanations covering several characteristics*

Characteristics containing the following key in the Table of Characteristics should be examined as indicated below:

- (a) Observations should be made during winter on trees that have fruited at least once.
- (b) Observations should be made on fully developed leaves from the middle third of current season shoot.
- (c) Observations should be made on fully developed flowers at the beginning of anther dehiscence.

8.2 *Explanations for individual characteristics*

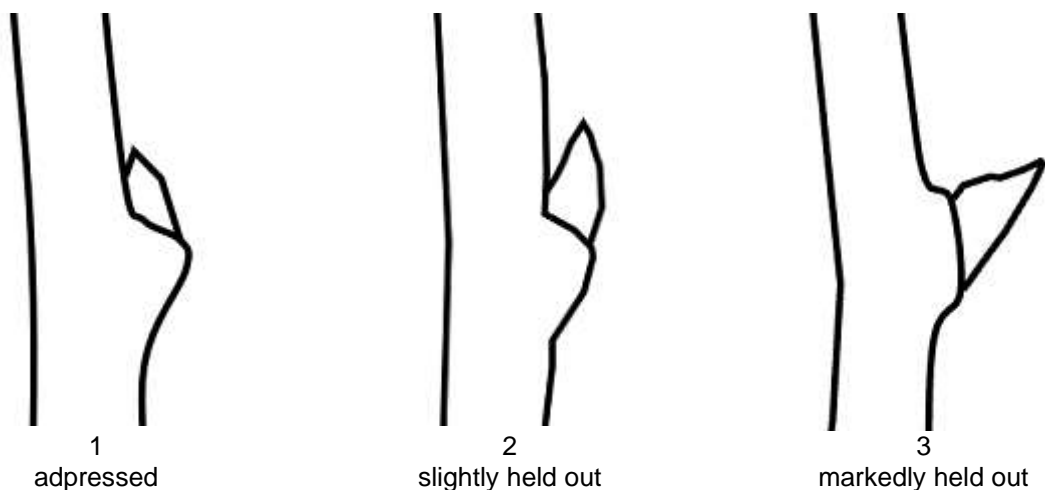
Ad. 2: Tree: habit



Ad. 3: One-year-old shoot: length of internodes

Observation should be made on the middle third of the shoot.

Ad. 9: Vegetative bud: position relative to shoot





Ad. 10: Vegetative bud: shape of tip



1  
pointed

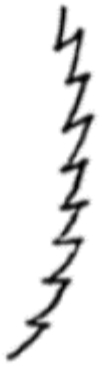


2  
slightly rounded



3  
strongly rounded

Ad. 18: Leaf blade: incisions of margin



1  
serrate

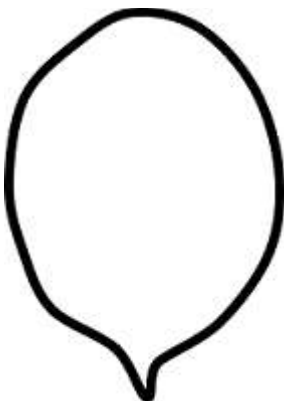


2  
dentate

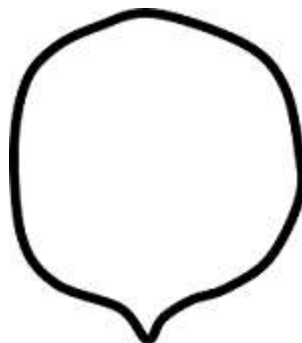


3  
crenate

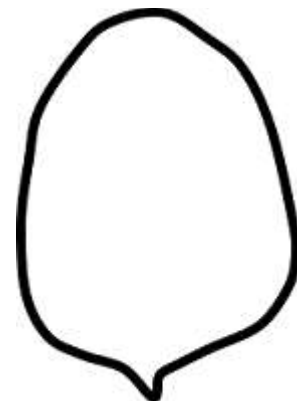
Ad. 24: Petal: shape



1  
elliptic

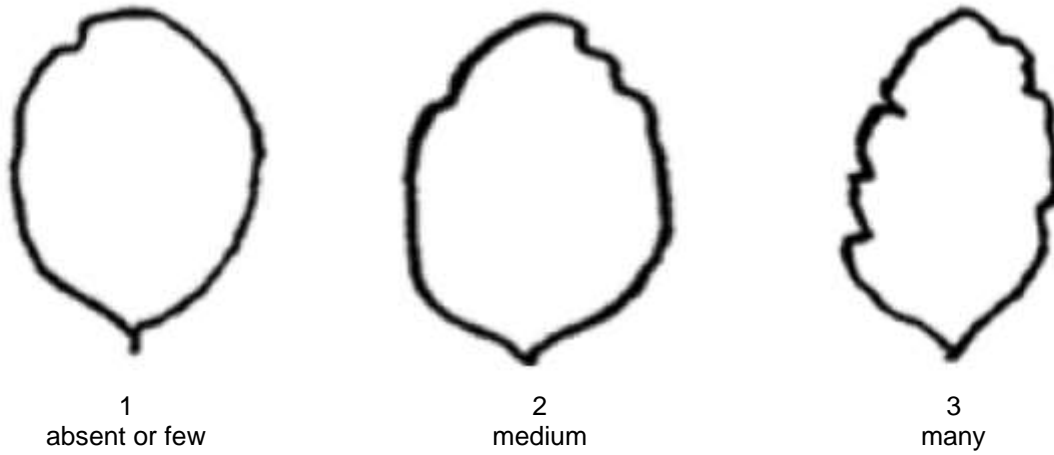


2  
round



3  
ovate

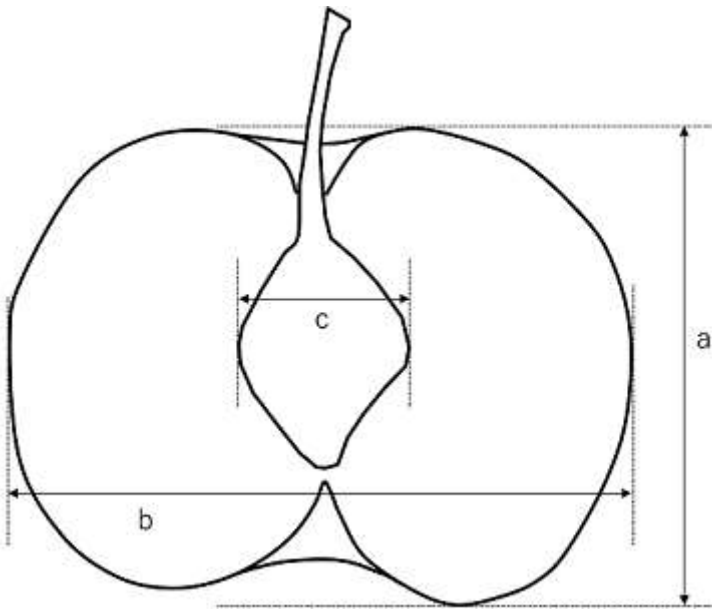
Ad. 25: Petal: number of notches on margin



Ad. 27: Anther: intensity of red color

Observations should be made before dehiscence.

Ad. 31: Fruit: height



a= Fruit: height  
b= Fruit: diameter  
a/b= Fruit: ratio height/diameter  
c/b= Fruit: ratio width of core/diameter of fruit

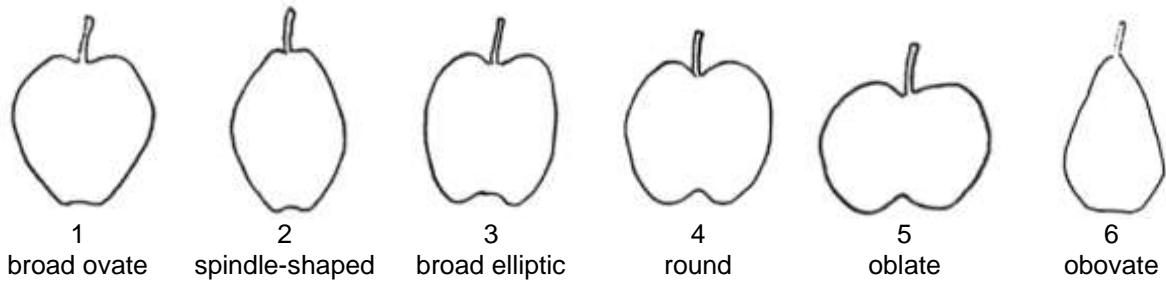
Ad. 32: Fruit: diameter

See Ad. 31

Ad. 33: Fruit: ratio height/diameter

See Ad. 31

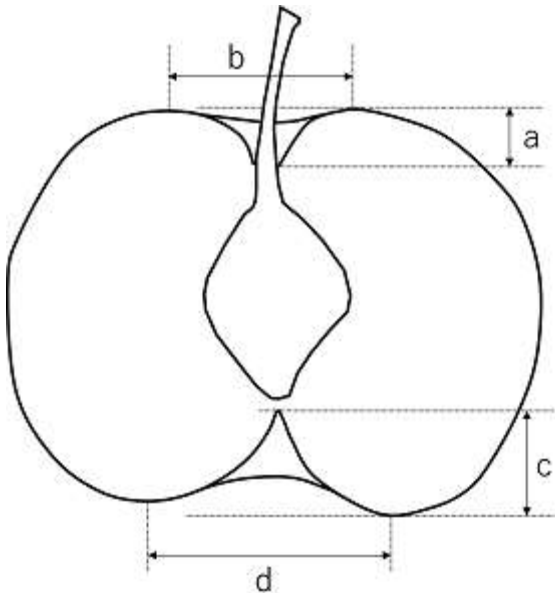
Ad. 34: Fruit: shape in lateral view



Ad. 35: Fruit: type of skin

- (1) green: The part of the skin that is covered with russet is either not at all or only partially.
- (2) intermediate: Approximately half or more of the skin is covered with russet, but not the entire surface.
- (3) russet: The entire surface of the skin is covered with russet.

Ad. 41: Fruit: depth of stalk cavity



- a= Fruit: depth of stalk cavity
- b= Fruit: width of stalk cavity
- c= Fruit: depth of calyx basin
- d= Fruit: width of calyx basin

Ad. 42: Fruit: width of stalk cavity

See Ad. 41

Ad. 43: Fruit: depth of calyx basin

See Ad. 41

Ad. 44: Fruit: width of calyx basin

See Ad. 41

Ad. 45: Fruit: persistence of calyx

- (1) absent or weak: Fruits with persistent calyx are none or very few.
- (2) medium: Fruits with persistent calyx are sometimes present.
- (3) strong: All or most of the fruits have persistent calyx.

Ad. 47: Fruit: thickness of stalk

Observation should be made on the middle of the stalk.

Ad. 48: Fruit: swelling of stalk



1  
absent



9  
present

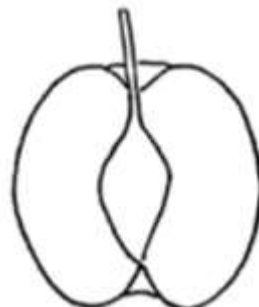
Ad. 49: Fruit: shape of core



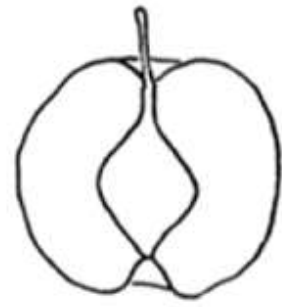
1  
narrow ovate



2  
broad ovate



3  
narrow spindle-shaped



4  
broad spindle-shaped

Ad. 50: Fruit: ratio width of core/diameter of fruit

See Ad. 31

Ad. 53: Fruit: firmness of flesh

Observation can be made by measurement using penetrometer.

Ad. 55: Fruit: sweetness

Sweetness can be determined by measurement using a refractometer.

Ad. 56: Fruit: acidity

The acidity can be determined by titration, pH meter, or tasting.

Ad. 58: Seed: shape



Ad. 59: Time of beginning of flowering

The time of beginning of flowering is reached when 10% of the flowers are fully open.

Ad. 60: Time for harvest maturity

Japanese pear fruits ripen on the tree and do not require post-harvest ripening. The time of harvest maturity is reached when the fruit has reached its optimum flavor.

Ad. 61: Self-compatibility

Many of Japanese pear varieties are self-incompatible, and require artificial pollination with pollen from other varieties.

Self-compatibility can be determined by the ratio of fruit set by self-pollination.

Just after opening, the flowers should be self-pollinated artificially, and bagged.

After 90 days, observe the ratio shown below.

(Number of fruit set / Number of flowers artificially self-pollinated)

Self-compatible varieties show a fruiting ratio of 30% or more, and self-incompatible varieties set fruits less than 30%.

Ad. 62: Resistance to black spot (*Alternaria alternata* Japanese pear pathotype)

1.	Pathogen	<i>Alternaria alternata</i> Japanese pear pathotype
2.	Quarantine status	
3.	Host species	Japanese Pear - <i>Pyrus pyrifolia</i> (Burm. f.) Nakai var. <i>culta</i> (Mak.) Nakai
4.	Source of inoculum	MAFF (JP)
5.	Isolate	(To be added)
6.	Establishment isolate identity	resistant and susceptible controls
7.	Establishment pathogenicity	Test on susceptible plants
8.	Multiplication inoculum	
8.1	Multiplication medium	Potato dextrose agar
9.	Format of the test	
9.1	Number of plants per genotype	3
9.2	Number of replicates	See 10.4
9.3	Control varieties	Susceptible controls: Nansui, Njisseiki, Osa Nijisseiki, Shinsui Resistant controls: Hosui, Niitaka
9.5	Test facility	Petri dishes in an incubator
9.6	Temperature	25°C all day
10.	Inoculation	
10.2	Quantification inoculum	$2.5 \times 10^4$ spores/ml
10.3	Plant stage at inoculation	Sampling from the second to the fourth leaf on the shoot towards the base (three leaves) per plant. The first leaf is determined as the leaf that has just unfolded at the top of a new shoot.
10.4	Inoculation method	Two filter papers are moistened in petri dishes with distilled and sterilized water. Leaf disks are detachedly arranged on the papers. 4-6 drops of the spore suspension (about 40 ul per drop) are placed on each leaf.
10.7	Final observations	4 days after inoculation
11.	Observations	
11.1	Method	Visual
11.2	Observation scale	resistant = no symptoms susceptible = necrosis on the marginal zone or whole surface
11.3	Validation of test	Evaluation of variety resistance should be calibrated with results of resistant and susceptible controls.
12.	Interpretation of data in terms of UPOV characteristic states	Absent (susceptible) [1] Present (resistant) [9]

Ad. 63: Resistance to Japanese pear scab (*Ventura nashicola*)

1.	Pathogen	<i>Ventura nashicola</i>
2.	Quarantine status	
3.	Host species	Japanese Pear - <i>Pyrus pyrifolia</i> (Burm. f.) Nakai var. <i>culta</i> (Mak.) Nakai
4.	Source of inoculum	MAFF (JP)
5.	Isolate	(To be added)
6.	Establishment isolate identity	resistant and susceptible controls
7.	Establishment pathogenicity	Test on susceptible plants
8.	Multiplication inoculum	
8.1	Multiplication medium	Potato dextrose agar
9.	Format of the test	
9.1	Number of plants per genotype	5
9.2	Number of replicates	none
9.3	Control varieties	Susceptible controls: Gold Nijisseiki, Hosui, Kosui, Niitaka Resistant controls: Kinchaku
9.5	Test facility	a humid room and a greenhouse
10.	Inoculation	
10.2	Quantification inoculum	$2 \times 10^5$ spores/ml
10.3	Plant stage at inoculation	Two-months-old seedlings
10.4	Inoculation method	Spraying a conidial suspension on 5 young leaves on one-year-old shoot. After spraying, seedlings should be kept in a humid room at 20°C for 48 hours. Then transfer to a non-temperature-controlled greenhouse for the growing season.
10.7	Final observations	30 days after inoculation
11.	Observations	
11.1	Method	Visual
11.2	Observation scale	resistant = no visible symptoms susceptible = necrotic or sporulating lesions on several leaves
11.3	Validation of test	Evaluation of variety resistance should be calibrated with results of resistant and susceptible controls.
12.	Interpretation of data in terms of UPOV characteristic states	Absent (susceptible) [1] Present (resistant) [9]

9. Literature

Abe, K., Kurihara A., 1993: Species and varietal differences in scab resistance of pear. Journal of the Japanese Society for Horticultural Science. JP, PP. 789-794.

Nishio, S. et al., 2022: Marker-assisted Selection of Agronomically Important Traits in Japanese Pear Breeding Programs. Hort. Res. JP, 21(2), pp. 137-147.

Saito, T. et al., 2021: New Japanese pear cultivar 'Hoshiakari'. Journal of the NARO Research and Development (7). JP, pp. 21-28.

Saito, T. et al., 2021: New Japanese pear cultivar 'Narumi'. Journal of the NARO Research and Development (7). JP, pp. 29-37.

Kanahama, K., 2015: The fruit horticulture. Buneido Publishing Co., Ltd. Tokyo, JP, pp. 125-158.



10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1	Botanical name	<input type="text" value="Pyrus pyrifolia (Burm. f.) Nakai var. culta (Mak.) Nakai"/>
1.2	Common name	<input type="text" value="Japanese Pear"/>
2. Applicant		
	Name	<input type="text"/>
	Address	<input type="text"/>
	Telephone No.	<input type="text"/>
	Fax No.	<input type="text"/>
	E-mail address	<input type="text"/>
	Breeder (if different from applicant)	<input type="text"/>
3. Proposed denomination and breeder's reference		
	Proposed denomination (if available)	<input type="text"/>
	Breeder's reference	<input type="text"/>

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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#4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross

(please state parent variety)

(.....) x (.....)

female parent

male parent

(b) partially known cross

(please state known parent variety(ies))

(.....) x (.....)

female parent

male parent

(c) unknown cross

4.1.2 Mutation   
(please state parent variety)

4.1.3 Discovery and development   
(please state where and when discovered and how developed)

4.1.4 Other   
(Please provide details)

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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4.2	Method of propagating the variety	
4.2.1	Vegetative propagation	
(a)	Budding or grafting	[ ]
(b)	Meristem culture	[ ]
(c)	Other (state method)	[ ]
	<input type="text"/>	
4.2.2	Other (Please provide details)	[ ]
	<input type="text"/>	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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).

Characteristics	Example Varieties	Note
<b>5.1 Tree: habit (2)</b>		
fastigate		1 [ ]
upright	Shinsui	2 [ ]
spreading	Niitaka	3 [ ]
drooping	Chojuro	4 [ ]
weeping		5 [ ]
<b>5.2 Branch: number of spurs (8)</b>		
few	Kosui	1 [ ]
few to medium		2 [ ]
medium	Hosui	3 [ ]
medium to many		4 [ ]
many	Gold Nijisseiki, Shinko, Shinsui	5 [ ]
<b>5.3 One-year-old shoot: number of axillary flower buds (11)</b>		
very few		1 [ ]
few	Gold Nijisseiki, Shinsui	2 [ ]
medium	Kosui, Shinseiki	3 [ ]
many	Chojuro, Hosui	4 [ ]
very many		5 [ ]
<b>5.4 Young leaf: color of upper side (13)</b>		
yellow green	Chikusui, Shinseiki	1 [ ]
greenish brown	Yakumo	2 [ ]
brown	Gold Nijisseiki, Hosui, Kosui	3 [ ]
red brown	Shinko, Shinsui	4 [ ]

Characteristics	Example Varieties	Note
<b>5.5 Leaf blade: length</b> <b>(15)</b>		
very short		1 [ ]
very short to short		2 [ ]
short	Hosui, Shinsui	3 [ ]
short to medium		4 [ ]
medium	Gold Nijisseiki, Kosui	5 [ ]
medium to long		6 [ ]
long		7 [ ]
long to very long		8 [ ]
very long		9 [ ]
<b>5.6 Fruit: weight</b> <b>(30)</b>		
very low		1 [ ]
very low to low		2 [ ]
low	Shinsui	3 [ ]
low to medium		4 [ ]
medium	Chojuro, Gold Nijisseiki, Kosui	5 [ ]
medium to high		6 [ ]
high	Hosui, Shinko	7 [ ]
high to very high	Niitaka	8 [ ]
very high	Atago	9 [ ]
<b>5.7 Fruit: shape in lateral view</b> <b>(34)</b>		
broad ovate		1 [ ]
spindle-shaped		2 [ ]
broad elliptic	Yakumo	3 [ ]
round	Hosui	4 [ ]
oblate	Shinsui	5 [ ]
obovate	Yasato	6 [ ]
<b>5.8 Fruit: type of skin</b> <b>(35)</b>		
green	Gold Nijisseiki	1 [ ]
intermediate	Chikusui, Kosui	2 [ ]
russet	Hosui, Niitaka, Shinko	3 [ ]

Characteristics	Example Varieties	Note
<b>5.9 Fruit: ground color of skin (36)</b>		
not visible	Hosui, Niitaka, Shinko	1 [ ]
green		2 [ ]
light yellow green	Yakumo	3 [ ]
dark yellow green	Gold Nijisseiki	4 [ ]
<b>5.10 Fruit: color of russet (37)</b>		
absent		1 [ ]
yellow brown	Chikusui	2 [ ]
yellowish red brown	Hosui, Kosui, Shinko	3 [ ]
red brown	Chojuro	4 [ ]
<b>5.11 Time of beginning of flowering (59)</b>		
very early		1 [ ]
very early to early		2 [ ]
early	Niitaka	3 [ ]
early to medium		4 [ ]
medium	Gold Nijisseiki, Hosui, Shinsui	5 [ ]
medium to late		6 [ ]
late	Kosui, Okusankichi	7 [ ]
late to very late		8 [ ]
very late		9 [ ]
<b>5.12 Time for harvest maturity (60)</b>		
very early		1 [ ]
very early to early	Aikansui	2 [ ]
early	Shinsui	3 [ ]
early to medium		4 [ ]
medium	Gold Nijisseiki, Hosui	5 [ ]
medium to late		6 [ ]
late	Niitaka	7 [ ]
late to very late	Shinko	8 [ ]
very late	Okusankichi	9 [ ]
<b>5.13 Self-compatibility (61)</b>		
absent	Gold Nijisseiki, Hosui, Kosui, Niitaka	1 [ ]
present	Osa Gold, Osa Nijisseiki	9 [ ]
not tested		[ ]

	Characteristics	Example Varieties	Note
<b>5.14 (62)</b>	<b>Resistance to black spot (<i>Alternaria alternata</i> Japanese pear pathotype)</b>		
	absent	Nansui, Nijisseiki, Osa Nijisseiki, Shinsui	1 [ ]
	present	Hosui, Kosui, Niitaka	9 [ ]
	not tested		[ ]
<b>5.15 (63)</b>	<b>Resistance to Japanese pear scab (<i>Ventura nashicola</i>)</b>		
	absent	Gold Nijisseiki, Hosui, Kosui, Niitaka	1 [ ]
	present	Kinchaku	9 [ ]
	not tested		[ ]

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6. Similar varieties and differences from these varieties

*Please use the following table and box for comments to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.*

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the <b>similar</b> variety(ies)	Describe the expression of the characteristic(s) for <b>your</b> candidate variety
<i>Example</i>	<i>One-year-old shoot: number of lenticels</i>	<i>few</i>	<i>many</i>
Comments:			



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#7. Additional information which may help in the examination of the variety

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?

Yes  No

(If yes, please provide details)

7.2 Are there any special conditions for growing the variety or conducting the examination?

Yes  No

(If yes, please provide details)

7.3 Other information

A representative color photograph of the variety displaying its main distinguishing feature(s), should accompany the Technical Questionnaire. The photograph will provide a visual illustration of the candidate variety which supplements the information provided in the Technical Questionnaire.

The key points to consider when taking a photograph of the candidate variety are:

- Indication of the date and geographic location
- Correct labeling (breeder's reference)
- Good quality printed photograph (minimum 10 cm x 15 cm) and/or sufficient resolution electronic format version (minimum 960 x 1280 pixels)"

Further guidance on providing photographs with the Technical Questionnaire is available in document TGP/7 "Development of Test Guidelines", Guidance Note 35 (<http://www.upov.int/tgp/en/>).  
 [The link provided may be deleted by members of the Union when developing authorities' own test guidelines.]

- Pollinator:  
 Good pollinators are the following varieties:

.....

	absent	present	not tested
- Self-compatibility (62)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	absent	present	not tested
- Resistance to pests and diseases			
i) <i>Alternaria alternata</i> Japanese pear pathotype (63)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) <i>Erwinia amylovora</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) <i>Venturia nashicola</i> (64)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) <i>Physalospora piricola</i> Nose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) <i>Phomopsis fukushii</i> Tanaka et Endo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
vi) <i>Corynespora melonis</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

# Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

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8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

If the answer to (b) is yes, please attach a copy of the authorization.

9. Information on plant material to be examined or submitted for examination

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 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 the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

(a) Microorganisms (e.g. virus, bacteria, phytoplasma)	Yes [ ]	No [ ]
(b) Chemical treatment (e.g. growth retardant, pesticide)	Yes [ ]	No [ ]
(c) Tissue culture	Yes [ ]	No [ ]
(d) Other factors	Yes [ ]	No [ ]

Please provide details for where you have indicated "yes".

.....

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant's name

Signature  Date

[End of document]