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**CATEGORIES OF CHARACTERISTICS AND  
HARMONIZATION OF STATES OF EXPRESSION  
(REVISED VERSION OF DOCUMENT TWF/28/7)**

*Document prepared by experts from South Africa*

## CATEGORIES OF CHARACTERISTICS AND HARMONIZATION OF STATES OF EXPRESSION

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## I. INTRODUCTION

In order to provide a harmonized basis for establishing future UPOV Test Guidelines, all the different types of characteristics listed in the existing Guidelines have been grouped into categories. Rules have been formulated for handling the states of expression as well as their accompanying notes.

When deciding on characteristics and their states of expression to be used for plant variety testing, it is, however, important always to first observe the plant, note down the most appropriate wording, compare the wording with examples under the different categories, and to then decide whether it fitted or whether a different wording should be chosen. Throughout the process, the applicability of the wording to the particular situation in the given plant group should be ensured. Although Test Guidelines are prepared to fit specific genera or species and not the other way round, it is useful to have some harmonized principles to ensure that similar characteristics are treated in a similar fashion.

## II. GENERAL RULES

### 1. ORDER OF THE STATES OF EXPRESSION

The order of the states of expression should as far as possible be:

From small to large  
young to old  
narrow to broad  
low to high  
base to apex  
light to dark (e.g. flower color)  
green to ripe (e.g. fruit color)  
symmetric to asymmetric

In case of conflict, “narrow to broad” should overrule “low to high.”

#### Examples

- Ex. 1: Growth habit: upright (1), spreading (2), prostrate (3), drooping (4)  
Ex. 2: Shape of apex: acute (1), obtuse (2), rounded (3), truncate (4), depressed  
Ex. 3: Shape: elliptic (1), circular (2), ovate (3), obovate (4)

### 2. SHAPE TERMINOLOGY

When plant shapes, angles and attitudes are described in precise terms such as circular, triangular, right-angled, horizontal, etc., it is to be understood as the approximate situation and not actual mathematical precision. It is therefore not necessary to include the word “approximately”, as in e.g. “approximately right-angled.”

### III. CATEGORIES

#### 1. QUALITATIVE CHARACTERISTICS

##### **Explanation**

These are characteristics of which the states of expression do not form an extended linear range with continuous variation from one extreme to the other. Each state of expression is self-explanatory and independently meaningful, irrespective of the particular situation, except for the few cases in which different degrees of expression are included in the characteristic (see examples under category 1.2.2).

The states are given numbers starting with one, except in the case of ploidy, where the actual numbers of chromosome sets are to be used.

##### **1.1 True Qualitative Characteristics**

##### **Explanation**

These are qualitative characteristics with discrete (clear-cut), discontinuous states of expression, each state being self-explanatory and independently meaningful. Each state is clearly different from the other and as a rule these characteristics are less susceptible to environmental influences. There are not many true qualitative characteristics. Characteristics expressing fixed numerical ranges also resort under this category, as by the definition of the states they are discrete and discontinuous. Some of the examples listed under category 1.2 may also belong here in individual cases where continuous variation does not occur.

##### **Examples**

- Ex. 1: Color: colorless (1), single colored (2), bicolored (3), multicolored (4)
- Ex. 2: Embryony: mono-embryonic (1), poly-embryonic (2)
- Ex. 3: Flowering habit: once flowering (1), twice flowering (2), almost continuously flowering (3)
- Ex. 4: Number: only two (1), two and three (2), only three (3), three and four (4), only four (5), two, three and four (6)
- Ex. 5: Ploidy: diploid (2), tetraploid (4), hexaploid (6), octoploid (8)
- Ex. 6: Resistance: not resistant (1), resistant to one or several races (2), resistant to all races (3)
- Ex. 7: Sex of plant: female (1), male (2), hermaphrodite (3)
- Ex. 8: Type of flower: single (1), semi-double (2), double (3)

## 1.2 Nontrue Qualitative Characteristics

### Explanation

These are qualitative characteristics of which the states of expression, although having the possibility of continuous variation from one extreme to the other, do not form an extended linear range as in the case of true quantitative characteristics. Continuous variation is disregarded for practical purposes. In cases where it is considered more reasonable to make further differentiation between the states of expression, intermediate states may be included, provided that they are adequately worded and the states created are sufficiently different from one another.

If, in an individual genus or species, a characteristic from this category does not show continuous variation, it may be considered to belong under category 1.1. The treatment is, however, the same.

### 1.2.1 Nontrue Qualitative Characteristics With Only Two States of Expression

#### Rule - Inclusion of Intermediate States

When preparing characteristics with only two states of expression, one should always consider whether it would be more reasonable to include an intermediate state in order to make provision for varieties expressing an intermediate situation. It is recommended that all characteristics should preferably consist of more than two states of expression, unless it is clear that no intermediates exist in that particular case.

Aperture of eye: closed (1), open (2) (category 1.2.1)

Aperture of eye: closed (1), slightly open (2), wide open (3) (condensed qualitatively expressed form of category 2.1.2)

#### Examples

- Ex. 1: Growth habit: upright (1), pendulous (2)
- Ex. 2: Persistence of leaves: deciduous (1), evergreen (2)
- Ex. 3: Position: adpressed (1), free (2)
- Ex. 4: Symmetry: symmetric (1), asymmetric (2)
- Ex. 5: Transition: gradual (1), abrupt(2)
- Ex. 6: Undulation: flat (1), undulating (2)

### 1.2.2 Nontrue Qualitative Characteristics With More Than Two States of Expression

#### Explanation

The states of expression may either form a nonlinear range or a combined nonlinear and linear range.

#### Rule - Qualitative Expression

All characteristics showing nonlinear variation between some or all of their states of expression are presented qualitatively, even though there may be continuous variation from one extreme to the other, because of the difficulty to establish a range of equidistant states arranged symmetrically on either side of a “medium” or “moderate” state.

#### Rule - Inclusion of Intermediate States

If it is considered more reasonable to make further differentiation between the states of expression, intermediate states may be included, provided that they are adequately worded and the states created are sufficiently different from one another.

Color: green (1), yellow (2), red (3)

Color: green (1), yellow-green (2), green-yellow (3), yellow (4), orange (5), red (6)

The wording for intermediate states should preferably not be formed by combining the wording of the preceding and following states by using the word “to”:

Not: Shape: round (1), elliptic (2), elliptic to ovate (3), ovate (4)

But: Shape: round (1), elliptic (2) ovate-elliptic (3), ovate (4)

However, in cases where an adequate term to describe a certain intermediate shape is lacking, the word “to” may be used:

Shape: elliptic(1), broad ovate to deltate(2), obovate (3)

Words such as “intermediate” should preferably not be used, and should definitely not be used more than once in a single characteristic:

Not: Shape: round (1), intermediate (2), elliptic (3), intermediate (4), ovate (5)

But: Shape: round (1), elliptic (2), ovate (3)

#### Rule - Combination of Nonlinear and Linear Ranges

It is acceptable to combine different degrees of a particular expression with another expression, (combined nonlinear and linear range), but in that case each degree of expression should have a qualifying adjective in order to make all states mutually exclusive.

Not: Color: light green (1), green (2), dark green (3), purple green (4)

But: Color: light green (1), medium green (2), dark green (3), purple green (4)

Dimensions of simple plane shapes have been mathematically determined and the “medium” state does not need a qualifying adjective to make the states mutually exclusive.

Not: Shape: broad elliptic (1), medium elliptic (2), narrow elliptic (3), ovate (4)

But: Shape: broad elliptic (1), elliptic (2), narrow elliptic (3), ovate (4)

### Examples

Ex. 1: Color: green (1), yellow-green (2), yellow (3), orange-yellow (4), orange (5), red (6), purple (7)

Ex. 2: Color pattern: one-colored (1), edged (2), striated (3), speckled (4), striated-speckled (5), shaded off (6), irregularly marked (7), flushed (8)

Ex. 3: Incisions of margin: sinuate (1), crenate (2), dentate (3), serrate (4)

Ex. 4: Pubescence: smooth (1), pubescent (2), prickled (3)

Ex. 5: Shape: round (1) broad elliptic (2), elliptic (3), ovate-elliptic (4), ovate (5)

Ex. 6: Structure: slightly grooved (1), moderately grooved (2), strongly grooved (3), ebosseed (4)

### 1.2.3 Nontrue Qualitative Characteristics With Individual And Combined States of Expression

#### Explanation

These are qualitative characteristics containing two or more individual expressions and one or more combinations.

#### Rule – Order of States

The alternatives are listed first, followed by the combinations.

#### Examples

Ex. 1: Adherence: to embryo (1), to flesh (2), to neither (3)

Ex. 2: Color: only green (1), only purple (2), green and purple (3)

Ex. 3: Color pattern: self-colored (1), striped (2), maculate (3), striped and maculate (4)

Ex. 4: Distribution: at base only (1), at distal part only (2), evenly distributed (3)

Ex. 5: Position: below middle (1), in middle (2), above middle (3), along most of its length (4)

Ex. 7: Sex expression: female flowers only (1), female and male flowers (2), female, male and hermaphrodite flowers (3)



## **2. QUANTITATIVE CHARACTERISTICS**

### **Examples**

These are characteristics of which the different degrees of expression form an extended linear range with continuous variation possible from one extreme to the other. The range is divided into nine states which are normally equally spaced and measurable on a one-dimensional scale.

### **2.1 True Quantitative Characteristics**

#### **Explanation**

These are quantitative characteristics expressing different degrees of only two contrasting basic expressions, arranged symmetrically on either side of an intermediate expression (“medium” state). The scale is flexible towards one or both extreme ends. In some cases none of the states are fixed and the whole scale can expand or shrink or move to the right or left (category 2.1.1). Sometimes only the lower extreme is fixed and the scale is flexible towards the top (category 2.1.2). In other cases only the “medium” state is fixed, from which point the scale is flexible in both directions (category 2.1.3).

Some true quantitative characteristics may be handled as qualitative when it is considered more reasonable to consider only a condensed range instead of the full range of nine states. The continuous variation is disregarded for practical purposes and the states are created to be sufficiently different from one another.

#### **Rule – Indication of States**

The full range of states is equally spaced along the total scale, with the intermediate (“medium”) state in the middle. The minimum requirement is that states 3, 5, 7 should be indicated in the Test Guidelines but if it is required to list example varieties for one or both extremes, then states 1, 3, 5, 7, 9 are to be indicated, maintaining the symmetry. Experts very seldom decide to include example varieties for even states as well but in this case the full range of states, 1, 2, 3, 4, 5, 6, 7, 8, 9, is listed. For cases where the total of possible differences is small, it is also acceptable to list only a limited section of the full range, such as 4, 5, 6, provided that the symmetry is maintained. This situation does not occur often either.

#### **Rule - Wording of Even States**

Even states are seldom indicated in the Test Guidelines. However, when establishing the states of expression, the wording of the even states should always be considered for the sake of variety descriptions. The even states are worded by combining the wording of the preceding and following states by using the word “to.”

**2.1.1 True Quantitative Characteristics With No States Fixed****Explanation**

Because no states of expression are fixed, the whole scale can expand or shrink and move up or down, depending on each particular situation. None of the states are therefore self-explanatory and independently meaningful. These characteristics are always expressed quantitatively.

**Rule - Wording of Uneven States**

States 3 and 7 are worded by using only the contrasting basic expressions, e.g. “weak (3)”, “strong (7)”, or “weakly curved (3)”, “strongly curved (7).” States 1 and 9 are worded by adding “very” to the wording of states 3 and 7 consecutively: “very weak (1)” or “very weakly curved (1).” State 5 is normally worded “medium” but may also be “intermediate”, or e.g. “moderately curved.”

**Examples****(a) *Contrasting basic expressions of states 3 and 7 each indicated by a single word***

- Ex. 1: Acidity: low (3), medium (5), high (7)  
 Ex. 2: Degree: weak (3), medium (5), strong (7)  
 Ex. 3: Diameter: small (3), medium (5), large (7)  
 Ex. 4: Texture: fine (3), medium (5), coarse (7)

**(b) *Contrasting basic expressions of states 3 and 7 each indicated by a phrase***

- Ex. 1: Curvature: slightly curved (3), moderately curved (5), strongly curved (7)  
 Ex. 2: Curvature: slightly convex (3), medium convex (5), strongly convex (7)

(State 1 of the above example would read: “very slightly convex” and state 2 would read “very slightly convex to slightly convex.”)

**Limited Range**

In some cases the full scope of differences is so small that only a limited range of close states can be observed. These states should receive the notes 4, 5, 6 as follows:

Length: short to medium (4), medium (5), medium to long (6)

**2.1.2 True Quantitative Characteristics With Only The Lower Extreme Fixed****Explanation**

This category is for characteristics in which the lower extreme has reached its limit, namely the state “absent” or equivalent wording. Depending on each particular situation, the whole scale may expand or shrink towards the top and the fixed lower extreme is consequently the only self-explanatory and independently meaningful state of expression. These characteristics may be handled in two ways, depending on whether the lower extreme shows a clear “absence” or an unclear “absence.”

**Rule - Handling of Cases With a Clear “Absence”**

In cases with a clear “absence”, the characteristic is split into two, the first reading “absent (1), present (9).” The second characteristic will be included in cases where it is required to also indicate different degrees of presence. For this second characteristic, only states 3, 5, 7 are normally listed, reading “weak (3), medium (5), strong (7)” or equivalent wording. The wording should basically correspond with that explained under category 2.1.

**Example – Clear “Absence”**

Pubescence : absent (1), present (9)  
Intensity of pubescence: weak (3), medium (5), strong (7)

**Rule - Handling of Cases With an Unclear “Absence”**

In cases with an unclear “absence”, all states are contained in a single characteristic, with state 1 reading “absent or very weak” or equivalent wording. In cases with more complicated wording, the “or very weak” etc. has sometimes been left out in state 1, in order to simplify the wording . States 3, 5, 7, 9, should all be indicated and the wording should basically correspond with that explained under category 2.1.

**Examples - Unclear “Absence”****(a) *Contrasting basic expressions of states 3 and 7 each indicated by a single word***

- Ex. 1: Adherence: absent or very weak (1), weak (3), medium (5), strong (7), very strong (9)  
Ex. 2: Difference: none or very slight (1), slight (3), medium (5), marked (7), very marked (9)  
Ex. 3: Number: absent or very few (1), few (3), medium (5), many (7), very many (9)

**(b) *Contrasting basic expressions of states 3 and 7 each indicated by a phrase***

- Ex. 1: Shape in cross section: straight or very weakly concave (1), weakly concave (3), moderately concave (5), strongly concave (7), very strongly concave (9)  
Ex. 2: Regularity: even or very slightly uneven (1), slightly uneven (3), moderately uneven (5), strongly uneven (7), very strongly uneven (9)  
Ex. 3: Size in relation to: same size (1), slightly smaller (3), moderately smaller (5), much smaller (7), very much smaller (9)

**Condensed Qualitatively Expressed Form**

In cases where it is difficult to observe more than two extreme states with a “grey area” in between the range of nine states is compressed into three states with the notes 1, 2, 3.

**Examples**

- Ex. 1: Bloom: absent or very weakly expressed (1), weakly expressed (2), strongly expressed (3)  
Ex. 2: Curvature: straight (1), slightly curved (2), strongly curved (3)  
Ex. 3: Glossiness: dull (1), slightly glossy (2), very glossy (3)  
Ex. 4: Hairiness: absent or very slightly hairy (1), slightly hairy (2), strongly hairy (3)  
Ex. 5: Shape in cross section: flat (1), slightly convex (2), strongly convex (3)  
Ex. 7: Symmetry: symmetric (1), slightly asymmetric (2), clearly (strongly) asymmetric (3)

**2.1.3 True Quantitative Characteristics With Only The “Medium” State Fixed**

**Explanation**

In this category the intermediate expression is fixed, whereby it clearly separates the two contrasting basic expressions. These are indicated symmetrically in intensifying degrees on either side of the “medium” state.

**Rule - Wording of Different Degrees of Expression**

The different degrees of expression should be worded in such a way that they are mutually exclusive. Since “smaller” also includes “much smaller” in the following example, it is necessary to differentiate between the different degrees of expression:

- Not: Size relative to: much smaller (1), smaller (3), same size (5), larger (7), much larger (9)  
But: Size relative to: much smaller (1), moderately smaller (3), same size (5), moderately larger (7), much larger (9)

In the following example, “acute” also includes “very acute”, since it covers all angles between 0° and 90°:

Not: Angle: very acute (1), acute (3), right angle (5), obtuse (7), very obtuse (9)

But: Angle: very acute (1), moderately acute (3), right angle (5), moderately obtuse (7), very obtuse (9)

As in other quantitative characteristics, the even states are worded by combining the wording of the preceding and following states by using the word “to”, e.g. “much smaller to smaller.”

### Examples

Ex. 1: Attitude (in relation to plant parts): strongly upwards (1), moderately upwards (3), horizontal (outwards) (5), moderately downwards (7), strongly downwards (9)

Ex. 2: Curvature: strongly incurving (1), moderately incurving (3), straight (5), moderately reflexing (7), strongly reflexing (9)

Ex. 3: Length in relation to: much shorter (1), moderately shorter (3), equal (5), moderately longer (7), much longer (9)

Ex. 4: Shape in cross section: strongly concave (1), moderately concave (3), flat (5), moderately convex (7), strongly convex (9)

Ex. 5: Position of maximum width: much closer to base (1), moderately closer to base (3), in middle (5), moderately closer to apex (7), much closer to apex (9)

### Limited Range

In cases where the full scope of differences is so small that only a limited range of close states can be observed, these states should receive the notes 3, 4, 5, 6, 7, as in the following examples:

### Examples

Ex. 1: Shape: moderately concave (3), moderately concave to flat (4), flat (5), flat to moderately convex (6), moderately convex (7)

### CONDENSED QUALITATIVELY EXPRESSED FORM

If it is more reasonable to consider only a condensed range, the full range may be compressed to either three or five qualitatively expressed states.

### Examples

Ex. 1: Angle: acute (1), right angle (2), obtuse (3)

- or: Angle: very acute (1), moderately acute (2), right angle (3), moderately obtuse (4), very obtuse (5)
- Ex. 2: Position of maximum width: towards base (1), in middle (2), towards apex (3)  
or: Position of maximum width: strongly towards base (1), moderately towards base (2), in middle (3), moderately towards apex (4), strongly towards apex (5)
- Ex. 3: Ratio, length / width: broader than long (1), as broad as long (2), longer than broad (3)  
or: Ratio, length/width: much broader than long (1), moderately broader than long (2), as broad as long (3), moderately longer than broad (4), much longer than broad (5)

## 2.2 Nontrue Quantitative Characteristics

### Explanation

Nontrue quantitative characteristics are intermediate between true quantitative characteristics and qualitative characteristics. In fact, they are often expressed qualitatively in the Test Guidelines. The typical quantitative pattern as found in true quantitative characteristics either does not exist or may easily be lost by simply adding or deleting one or more basic states of expression. Any symmetry that may have existed around a “medium” state is thereby distorted. The linear range may even be made up of a number of basic expressions, each fixed and independently meaningful. These basic expressions are sometimes combined with different degrees of expression, which may form part of the range. It is often not possible to identify a “medium” state and sometimes even the linearity of the range is not very clear. The range may furthermore change course and become nonlinear at any point, in which case the characteristic will definitely resort under the qualitative characteristics.

Because of these problems, it may be preferable to express all nontrue quantitative characteristics qualitatively unless the quantitative expression is specifically required in a particular situation. The qualitative expression is normally used in any case whenever the symmetry is lost and it has to be used if the linearity is lost. If it is decided to express any of these characteristics quantitatively for some reason, the states should be more or less evenly spaced and the wording of the even states will have to be taken into consideration for the sake of variety descriptions.

In the following example the expression becomes qualitative by mere addition of one state:

Shape: elliptic (3), round (5), oblate (7) (may also be qualitatively expressed)  
Shape: narrow elliptic (1), elliptic (2), round (3), oblate (4) (definitely qualitative)

In the following example the expression becomes qualitative when the range changes in a nonlinear direction:

Shape: elliptic (3), round (5), oblate (7) (may also be qualitatively expressed)  
Shape: elliptic (1), round (2), oblate (3), ovate (4) (definitely qualitative)

**Rule – Mutually Exclusive Wording for States of Expression**

Each basic expression should be self-explanatory and independently meaningful and terms such as “intermediate” should be avoided. If different degrees of expression are combined with some basic expressions, the wording of each state should be mutually exclusive:

Attitude (in relation to plant parts): adpressed (1), oblique (3), perpendicular (5), slightly recurved (7), strongly recurved (9) (may also be qualitatively expressed)

States 7 and 9 should not read: recurved (7), strongly recurved (9)

**Rule - Full Plane Shapes**

Simple full plane shapes are divided into mathematically determined groups with regard to their length / width ratios and they should be indicated accordingly. The terms “elliptic” and “broad elliptic” each have specific dimensions and are mutually exclusive. They form part of the following full range:

Shape: narrow elliptic (1), elliptic (2), broad elliptic (3), round (4), narrow oblate (5), oblate (6), broad oblate (7) (qualitatively expressed)

**Attitude (in relation to soil level)**

This is an exception to the rule of maintaining the symmetry in quantitatively expressed characteristics. States of expression not existing in a particular situation need not be listed and symmetry need therefore not be maintained. However, all states have to be listed equidistantly. The full range would read as follows:

Attitude: erect (1), erect to semi-erect (2), semi-erect (3), semi-erect to horizontal (4), horizontal (5), horizontal to semi-drooping (horizontal to semi-pendulous) (6), semi-drooping (semi-pendulous) (7), semi-drooping to drooping (semi-pendulous to pendulous) (8), drooping (pendulous) (9)

The following asymmetrical possibilities would be allowed: 1, 3, 5 or 1, 2, 3, 4 or 1, 2, 3, 4, 5 or 1, 3, 5, 7, etc.

The term “prostrate” may replace “horizontal” for cases where the soil level prevents any further states being expressed. In this case the (quantitatively expressed) states would read:

Attitude: erect (1), erect to semi-erect (2), semi-erect (3), semi-erect to prostrate (4), prostrate (5)

Asymmetrically indicated quantitative characteristics beginning with state 1 present a problem in that one cannot judge, by merely looking at the states of expression, whether they are quantitative or qualitative. It is not clear whether the states of the above example form

part of the 1 - 9 quantitative scale or whether the characteristic is presented qualitatively. When it is more practical to observe only a condensed range, such a characteristic may be expressed qualitatively, as follows:

Attitude: erect (1), semi-erect (2), prostrate (3)

### Examples

Some examples have been listed in the quantitative expression, although the qualitative expression may be preferable.

- Ex. 1: Attitude (in relation to plant parts): upwards (1), semi-upwards (3), horizontal (5), semi-downwards (7), downwards (9)
- Ex. 2: Attitude: erect (1), semi-erect (3), horizontal (5), slightly reflexed (7), strongly reflexed (9)
- Ex. 3: Attitude: oblique (1), perpendicular (2), slightly recurved (3), strongly recurved (4)
- Ex. 4: Attitude: climbing (1), erect (2), spreading (3)
- Ex. 5: Attitude: strongly climbing (1), slightly climbing (2), erect (3), slightly spreading (4), strongly spreading (5)
- Ex. 6: Curvature: incurved (1), straight (2), recurved (3), rolled (4)
- Ex. 7: Growth habit: upright (1), semi-upright (2), spreading (3), semi-prostrate (4), prostrate (5)
- Ex. 8: Growth habit: upright (1), semi-upright (2), spreading (3), drooping (4),
- Ex. 9: Growth habit: climbing (1), upright (2), spreading (3)
- Ex. 10: Growth habit: upright (1), semi-upright (2), spreading (3)
- Ex. 11: Growth habit: strongly climbing (1), slightly climbing (2), upright (3), slightly spreading (4), strongly spreading (5), semi-prostrate (6)
- Ex. 12: Growth habit: columnar (1), fastigiate (2), upright (3), semi-upright (4), spreading (5)
- Ex. 13: Growth habit: strongly climbing (1), slightly climbing (2), upright (3), slightly spreading (4), strongly spreading (5)
- Ex. 14: Growth habit: upright (1), spreading (2), drooping (3), weeping (4)
- Ex. 15: Growth habit: upright (1), semi-upright (2), spreading (3), drooping (4)
- Ex. 16: Position: at base (1), one quarter from base (2), in middle (3), one quarter from apex (4), at apex (5)
- Ex. 17: Shape of apex: acute (1), obtuse (2), rounded (3), truncate (4), emarginate (5)
- Ex. 18: Shape of apex: narrow acute (1), broad acute (2), narrow obtuse (3), broad obtuse (4)
- Ex. 19: Shape of apex: acute (1), obtuse (2), rounded (3)
- Ex. 20: Shape of base: acute (1), obtuse (2), rounded (3), flattened (4)



**CONDENSED QUALITATIVELY EXPRESSED FORM****Examples**

- Ex. 1: Adherence: non-adherent (1), semi-adherent (2), fully adherent (3)
- Ex. 2: Aperture of eye: closed (1), semi-open (partly open) (2), fully open (3)
- Ex. 3: Attitude (in relation to soil level): erect (1), semi-erect (2), prostrate (3)
- Ex. 4: Attitude (in relation to soil level): erect (1), horizontal (2), drooping (pendulous) (3)
- Ex. 5: Development: absent (1), partly developed (2), fully developed (3)
- Ex. 6: Exposure: fully exposed (1), somewhat concealed (2), fully concealed (3)
- Ex. 7: Persistence: none (1), partial (2), total (3)
- Ex. 8: Position: at base (1), in middle (2), at apex (3)
- Ex. 9: Structure: hollow (1), semi-solid (2), solid (3)

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