



Development Test Guidelines in Orchids & Outline of Orchids Examination in Japan

DUS growing test of orchids in Japan: cases of Phalaenopsis



Kohei IMAMURA
Staff, DUS Test Division,
NISHINIHON Station,
National Center for Seeds and Seedlings
(NCSS)



Most of DUS examinations for orchids are carried out in on-site inspection.



The reason is that it is not sufficiently equipped to carry out routine DUS growing test of orchids.

- Lack of dedicated greenhouse for orchids
- Fuel costs for greenhouse heating
- Purchase costs of similar varieties



**Cases of DUS growing test are only three times.
All of them are examinations of phalaenopsis.**



The similarity of existing variety and candidate variety is very high.



e.g. Candidate variety



Existing variety

The determination of distinctness is difficult in on-site inspection.

For the reason of interests between breeders, it is difficult to obtain similar varieties in on-site inspection.

In these cases, we conduct DUS growing tests for high quality examination.



1. Work plan for growing test

- When, where, for whom, what and how to grow the plant
- Information from experts, technical books and so on
- Test guideline of phalaenopsis

2. Requirements of provided plant materials

- Sufficient growth conditions (i.e. visibly healthy, not lacking in vigor, non affected by any pest or disease).
- Minimum quantity of plant material is 12 plants.

In the phalaenopsis, the plant materials are desirable to just begin growth of flower bud.

flower bud





3. Assessment based on TG

- Characterization while comparing the candidate variety and example variety based on TG.
- It is important to check consistency in the characteristics of all varieties in the test.

4. Decision of DUS

- **High accuracy assessment** is conducted by three or more staff for the decision of DUS.
- On the basis of examination data and plants, the assessment is determined.





Growing conditions

Type of culture	pot culture in greenhouse
Temperature control	minimum 15 degrees
Shading	50% (70% in the summer)
Ventilation	More than 25 degrees (20 degrees in the summer)
Spacing and plot	30cm, 12 plants per plot

we need to control the growing condition that varieties can express the characteristics sufficiently.

Photography in the DUS growing test of phalaenopsis



Panoramic view



Test plot



Plant growth habit



Leaf



Flower (upper, lateral and lower side)



Flower parts (upper and lower side)



Lip



Comparison of flower between varieties

It is important that photographs are taken to be able to confirm the characteristics of the plant.

These photos will be evidence for examination of characteristic.



- 2006
- The similarity is very high between candidate variety and similar variety
- It was withdrawn the application before the start of the DUS growing test.

No more information

DUS growing test of phalaenopsis: case 2



Candidate variety

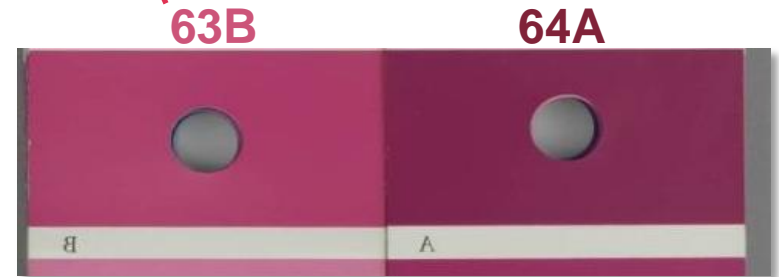
Similar variety

Candidate variety

Similar variety



- 2011
- Difference in the color of the pattern of lateral sepal
- **Distinctness was determined.**



RHS color chart



- 2014
- After on-site inspection was conducted, highly similar variety was found.



Candidate variety



Similar variety



Candidate variety

Similar variety

- The similarity of these varieties was very high.
- It was **withdrawn the application during the DUS growing test.**



(NCSS headquarters)

**Thank you for
your attention.**



(NISHINIHON Station)