



Japan International Cooperation Agency



JICA knowledge Co-Creation Program “Administration of Plant Breeder’s Right” (FY2018)

Tokyo, Japan
24 February 2019 – 12 March 2019

Raudah Talib
BPIT Perak
Julai 2019



PENGENALAN

JICA knowledge Co-Creation Program “Administration of Plant Breeder’s Right” (FY2018)

- ✓ Lokasi : 26 Feb 2019 (Jica , Tokyo)
: 27 Feb hingga 3 Mac 2019 (Jica dan DUS Tsukuba)
: 4 – 7 Mac 2019 (Stesen DUS Nishi Nihon Okayama)

- ✓ Tempoh Kursus (17 Hari)
- ✓ Pengajur – JPA Malaysia dan JICA Japan.
- ✓ Bil. Peserta – 10 orang



LATAR BELAKANG PESERTA



PERSONS IN CHARGE

Implementation of Program

- Technical Instruction
- Evaluation, etc.

MAFF

(Ministry of Agriculture, Forestry and Fisheries)

NARO

(National Agriculture and Food Research Organization)

NCSS

(Center for Seeds and Seedlings)

Coordinator

Ms. SHIMIZU

- Interpretation
- Coordination & Facilitation

Participants

JICA

Malaysia Office:
Ms. AKAISHI

JICA Tsukuba:
Ms. HAGIWARA

Supervision

- Planning(Course Designing)
- Monitoring(Activity, Input/Output)
- Evaluation(Validity, Efficiency, Relevance, Impact, Sustainability)

Akta Perlindungan Varieti Baru 2004 (Akta 634)

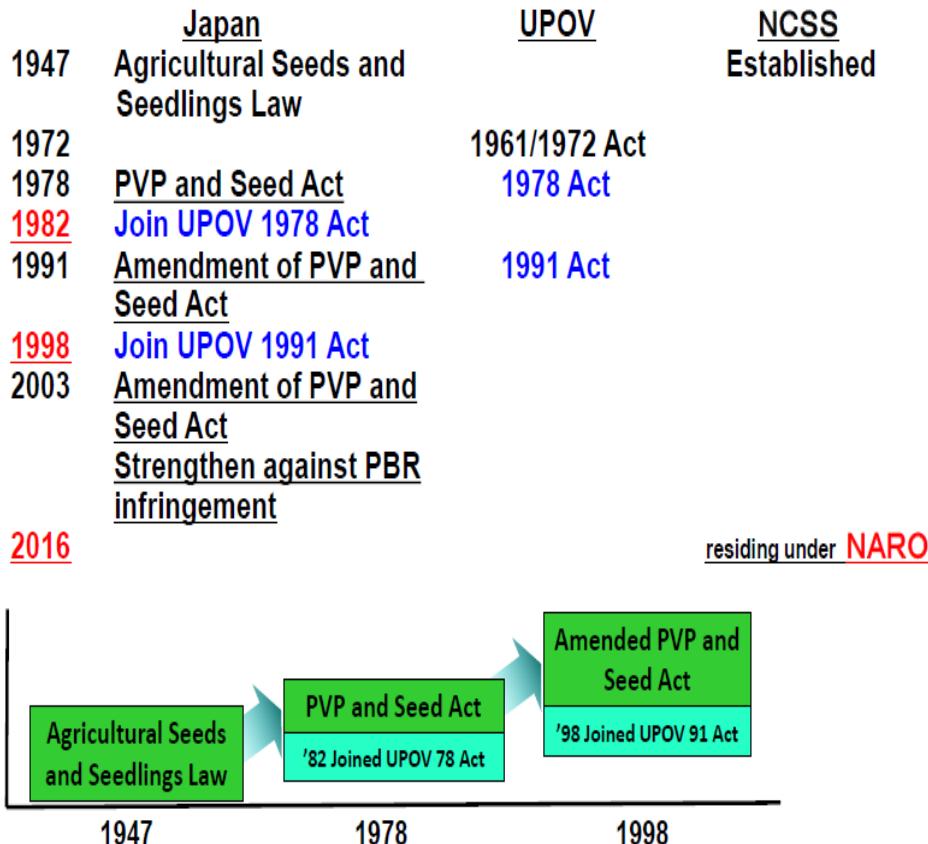
- ✓ Memberi perlindungan hak pembiak baka bagi varieti tumbuhan yang dicipta
- ✓ Memberi pengiktirafan perlindungan ke atas sumbangan petani, masyarakat setempat & pribumi terhadap pewujudan varieti baru
- ✓ Menggalakkan pelaburan pembangunan pembiakan varieti baru.

OBJEKTIF

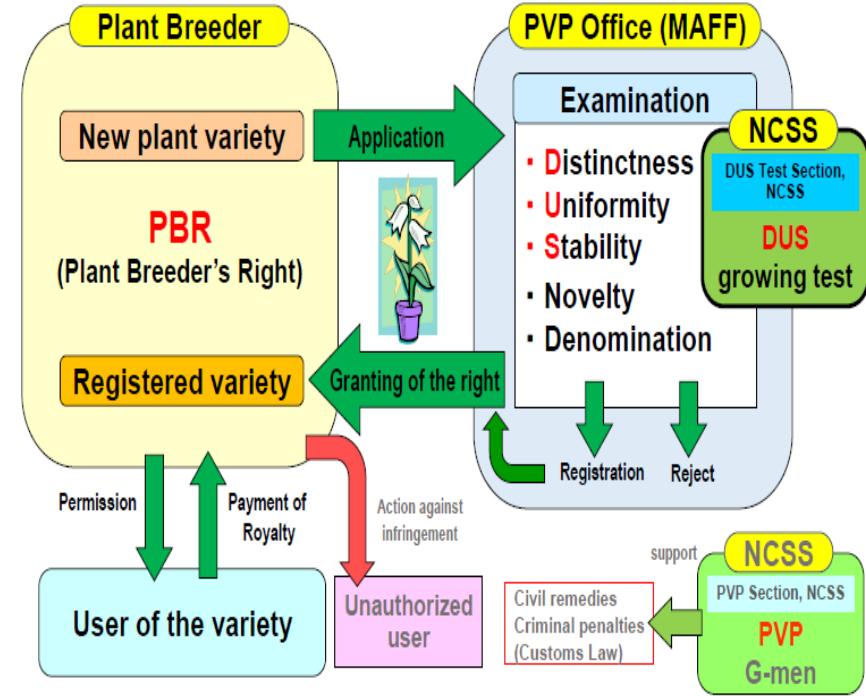
- ✓ Menambahbaik dan meningkatkan pengetahuan dan latihan kepada pegawai PVP dan pegawai pemeriksa
- ✓ Meningkatkan keberkesanan Sistem Pengurusan PBR (Plants Breeders Right) di Malaysia

Administration of Plant Breeders Right

Sejarah Sistem PVP di Jepun

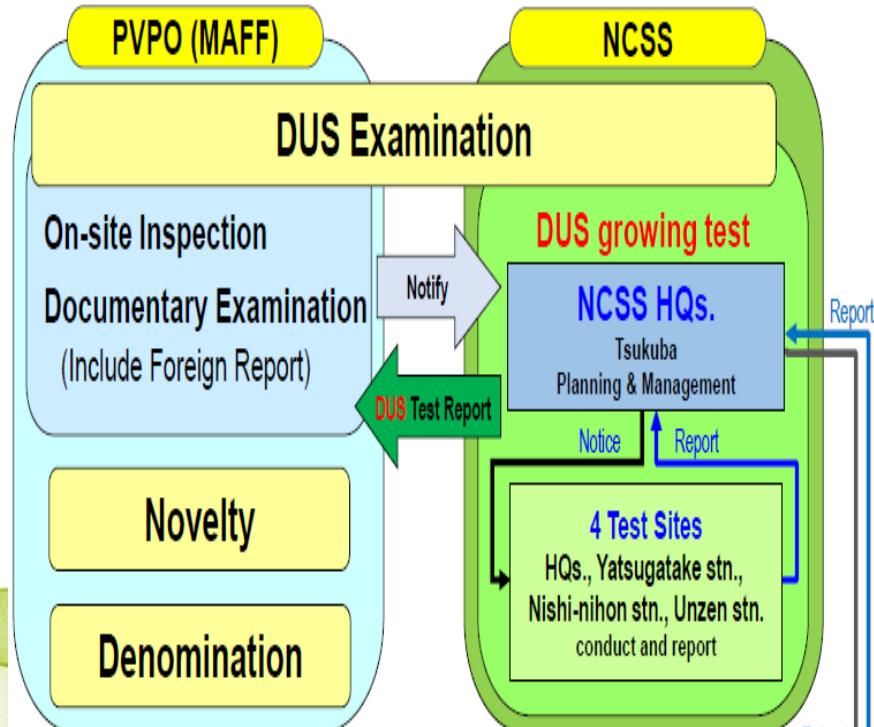


System of NCSS in NARO

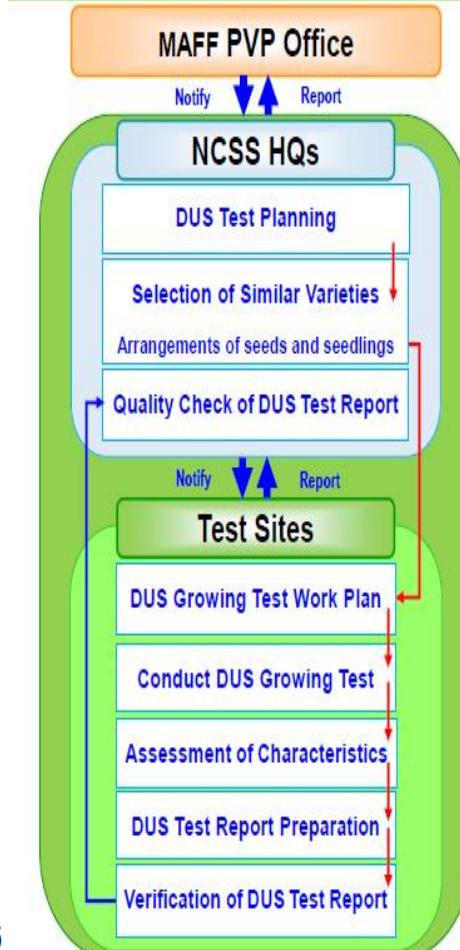


The Plant Variety Protection and Seed Act

Article 15 (2) The Minister of MAFF shall, in the course of the examination of the applied variety, cause officers of the MAFF to carry out onsite inspections or the "NARO(NCSS)" to carry out growing tests.

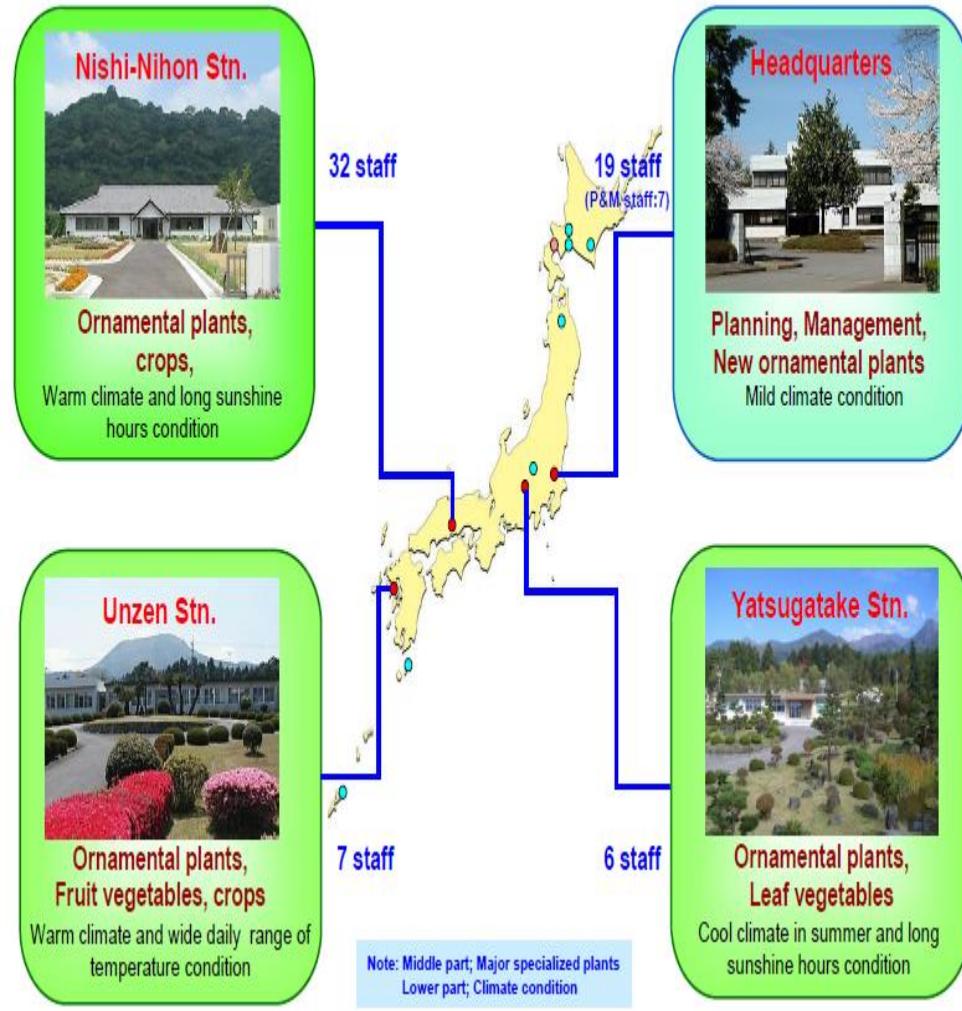


Article 15 (5) The "NARO(NCSS)" may, with the consent of the Minister of MAFF, request relevant administrative organs, educational institutions or other persons whom it finds appropriate, to carry out growing tests prescribed in paragraph (2) of this Article.

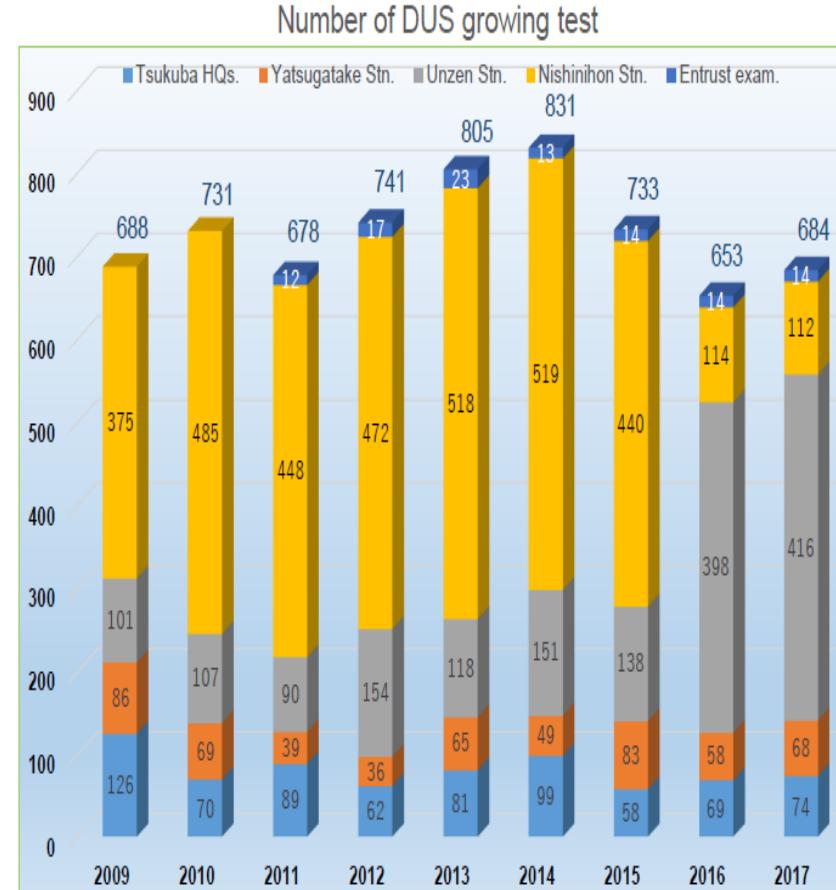
Procedure of DUS Growing Test

DUS growing test for Petunia in roof house

Lokasi DUS Growing Test Sites dan jumlah Ujian DUS di Jepun



Trend in the number of DUS Growing Tests



test place



General flow of DUS growing test

Test plan

Work plan

Cultivation

Assessment

Test report

Test plan is a simple list that summarized when, where and how to do DUS growing test.

Work plan is a document that is described concrete

Overview of examination procedure of plant new varieties

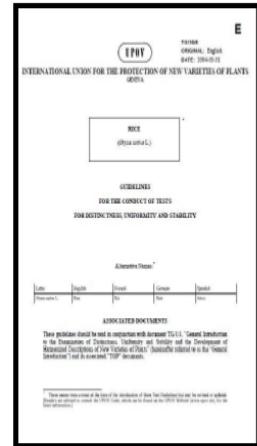
assessment and photography



fixed composition



harmonization



+ add 20 characteristics
(disease and pest resistance, environmental tolerance...)



UPOV TG
65 characteristics

National TG
85 characteristics

Test Guidelines in Japan

Assessment and Practice of Rice Assessment



Samples of rice varieties for assessment and practice of measurement rice length.



Demonstration for endosperm type for rice; glutinous, non-glutinous and intermediate photograph session of candidate, example and similar varieties of rice.

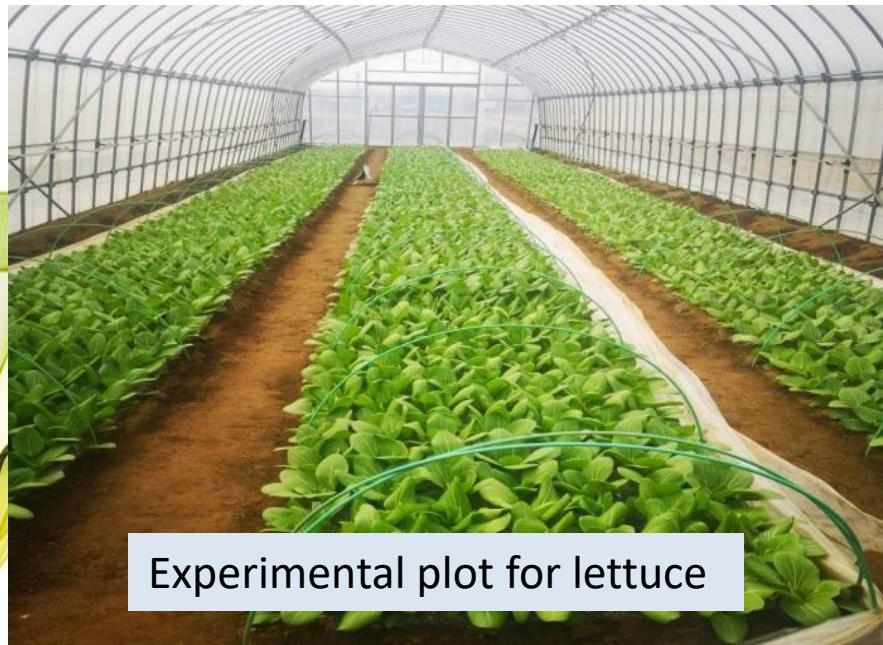
The Musashino Seed Company



Musashino Seed Company



Experimental farm

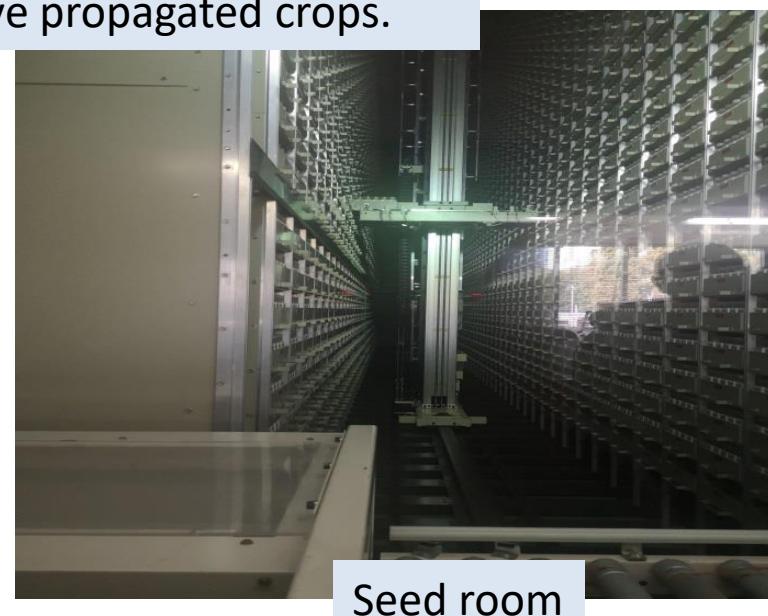
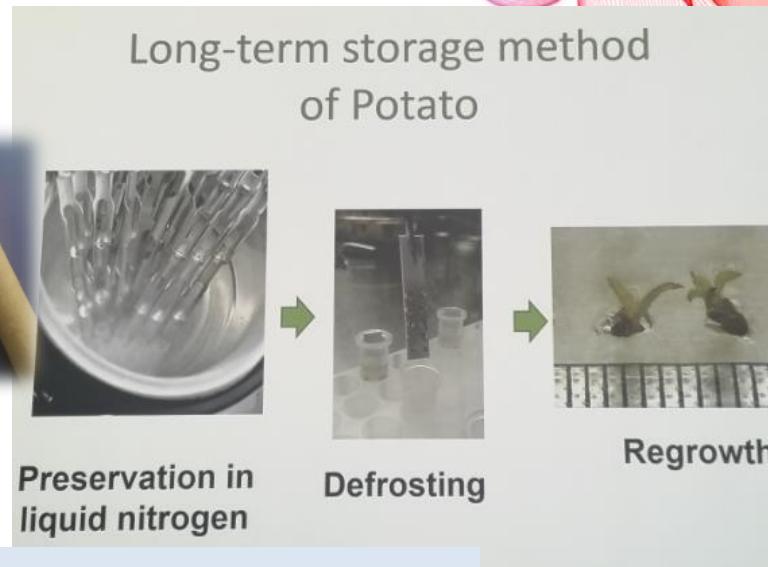
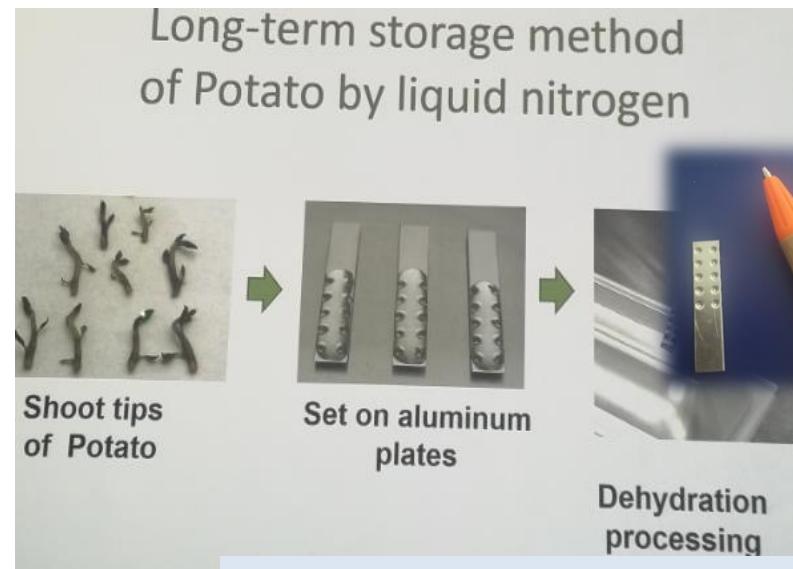


Experimental plot for lettuce



Experimental plot for leeks

The Genebank , National Agriculture and Food Research Organization (NARO), Tsukuba, Japan



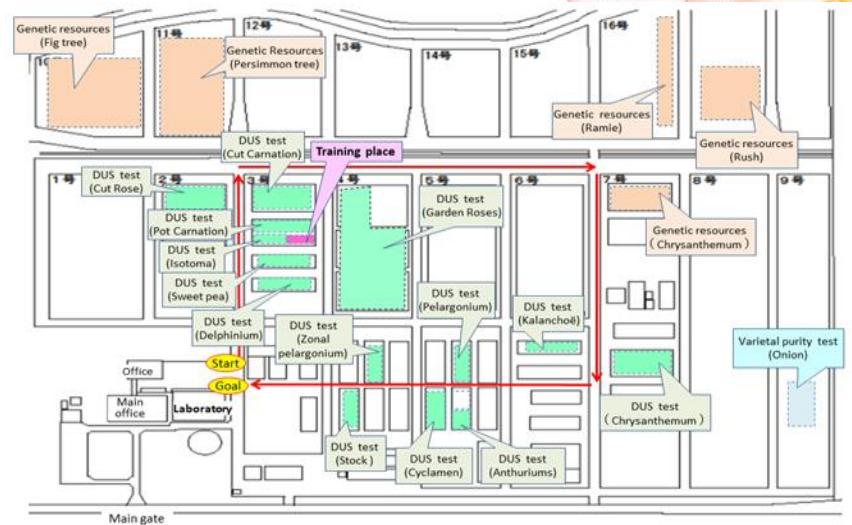
4 – 8 March 2019

Nishi Nihon Station

Center for Seeds and Seedlings, NARO



Nishi-Nihon station

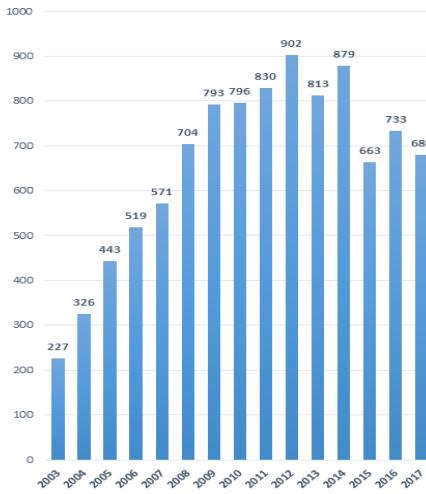


Guide tour map in Nishi Nihon

Content of work in Nishi Nihon

1. DUS growing test for the registration of new plant varieties (Based on the Seeds and Seedlings Act)
2. Inspection of seeds and seedlings
(Designated seeds and seedlings systems based on the Seeds and Seedlings Act)
3. Conservation and multiplication of plant genetic resources
4. Protection of plant breeder's rights

The numbers of DUS growing test (Nishi-Nihon Station)



※ The total number of DUS growing test in the year.
() is the number started newly, and inner number.

The number of DUS growing test in Nishi-Nihon station (2003 until 2017)

Assessment table

Note	1	2	3	4	5	6	7	8	9
	(Example: Plant: height)								
State			short		medium		tall		
Example Variety			X:51.5		Y:92.3				
Range(cm)	~	21	41	61	81	101	121	141	160
	20	40	60	80	100	120	140	160	
Distance(cm)	20	20	20	20	20	20	20	20	
Median(cm)	10	30	50	70	90	110	130	150	

Example variety X and Y indicate note 3 and 5, respectively.

The number with X(Y) is the measured value in that DUS growing test.

Assessment table is made with the state and measured value

In Japan, they assess based on Assessment table for Quantitative characteristics (QN) observed by measurement.

Kinki, Chugoku, Shikoku area

Shiga, Kyoto, Oosaka, Hyogo,
Nara, Wakayama,

Tottori, Okayama, Shimane,
Hiroshima, Yamaguchi,

Kagawa, Ehime, Tokushima, Kochi

Jurisdiction area of
Nishi-Nihon station

Unzen station

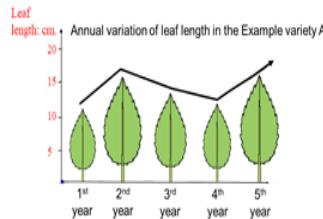
Hokkaido-chuo station

(1) Label Examination (Nishi-Nihon Station)

FY	Seed companies	Varieties	Samples
2011	42	3,911	774
2012	52	4,074	835
2013	51	3,921	833
2014	47	3,890	834
2015	46	3,698	849
2016	35	3,820	861
2017	33	3,937	833

Inspection of seeds and seedlings

QN characteristics(QN) are influenced by environment. Some QN have annual variations.



Leaf length: cm. Annual variation of leaf length in the Example variety A

If note setting is fixed...

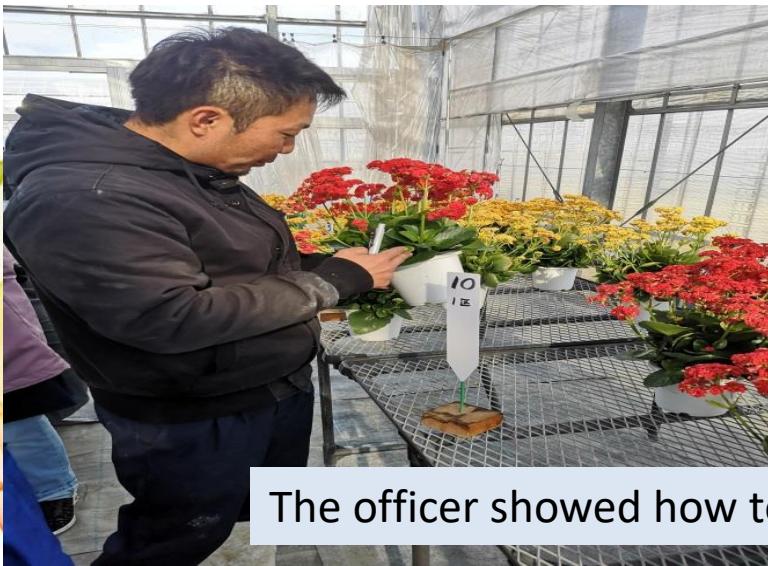
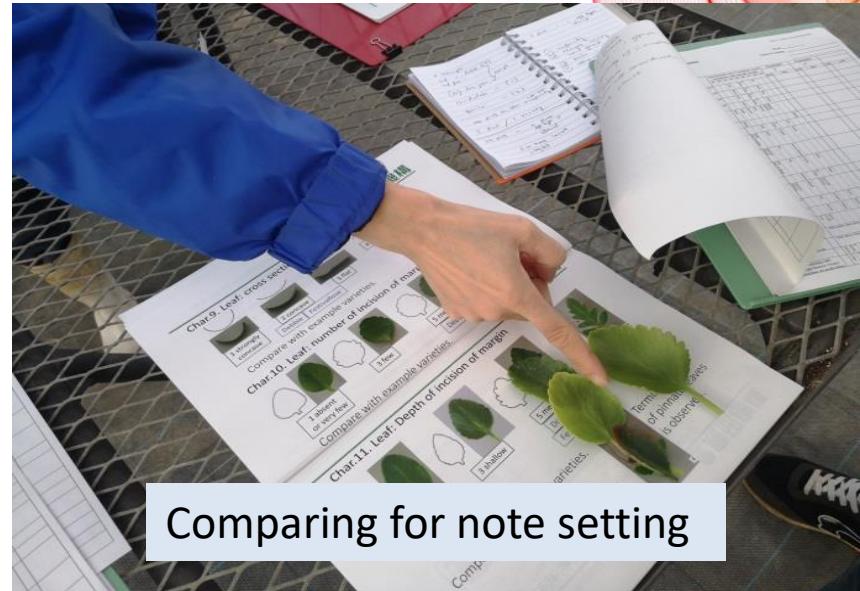
Note	5	6
Range	11	15
	~	~
	14	18

Year	1 st year	2 nd year
Measured value	12	16
Note	5	6

Variety A indicate different Notes in 1st year and 2nd year

When the notes are evaluated by the fixed assessment table,

Practice of DUS test and note setting for Kalanchoe spp.



KAEDAH

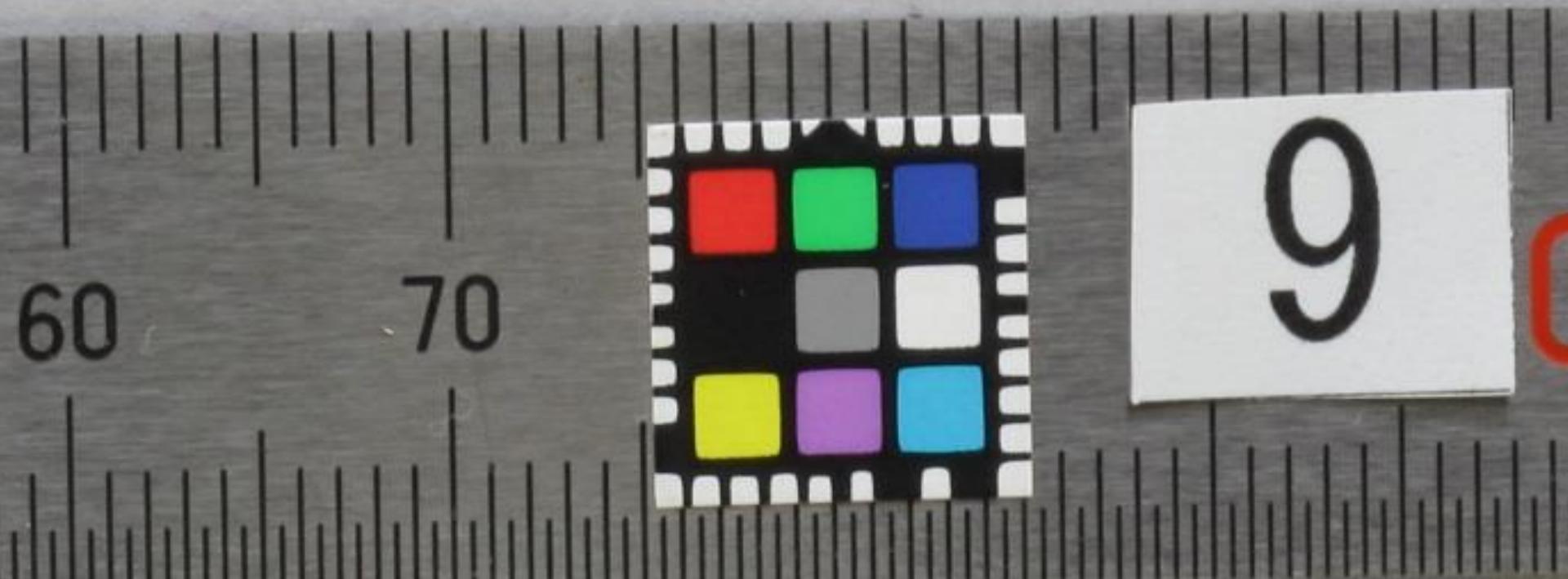
5 March 2019

- 1) Photo taking in an examination area
- 2) Uniformity and stability evaluation
- 3) Character evaluation of applicant variety and example variety
- 4) Selection of example variety and similar variety

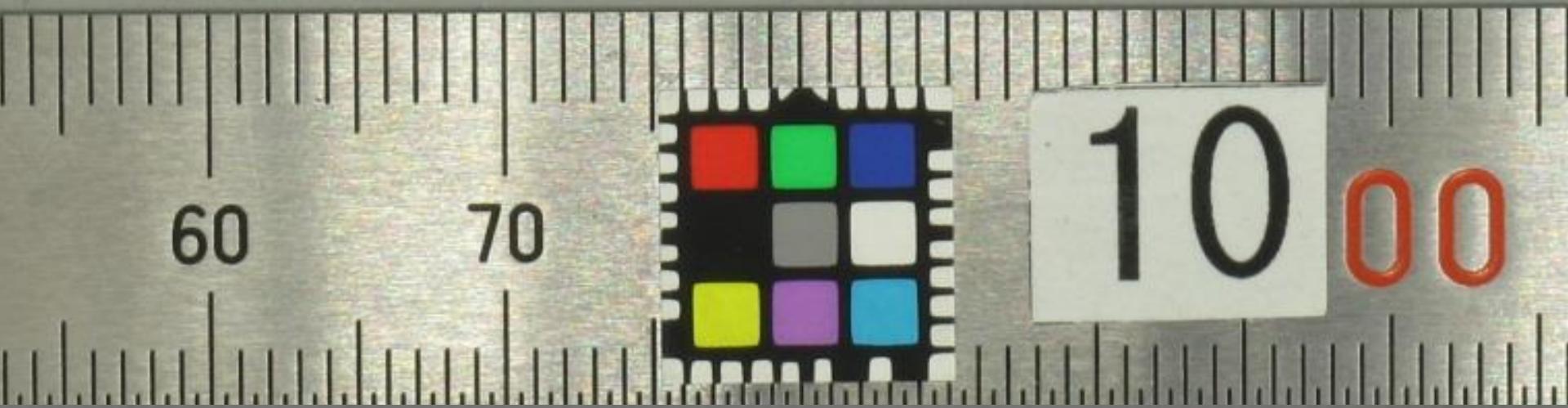
6 March to 7 March

- 1) Character evaluation of applicant variety and example variety
- 2) Preparation of class value table for quantitative characteristics
- 3) Interpreting test design for test plot establishment and maintenance
- 4) Reporting and submission of report

EXAMPLE VARIETY – DEBBI



EXAMPLE VARIETY – DON JUAN



CANDIDATE VARIETY



50



50

60

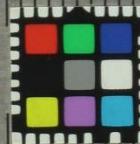
70

9

1

10

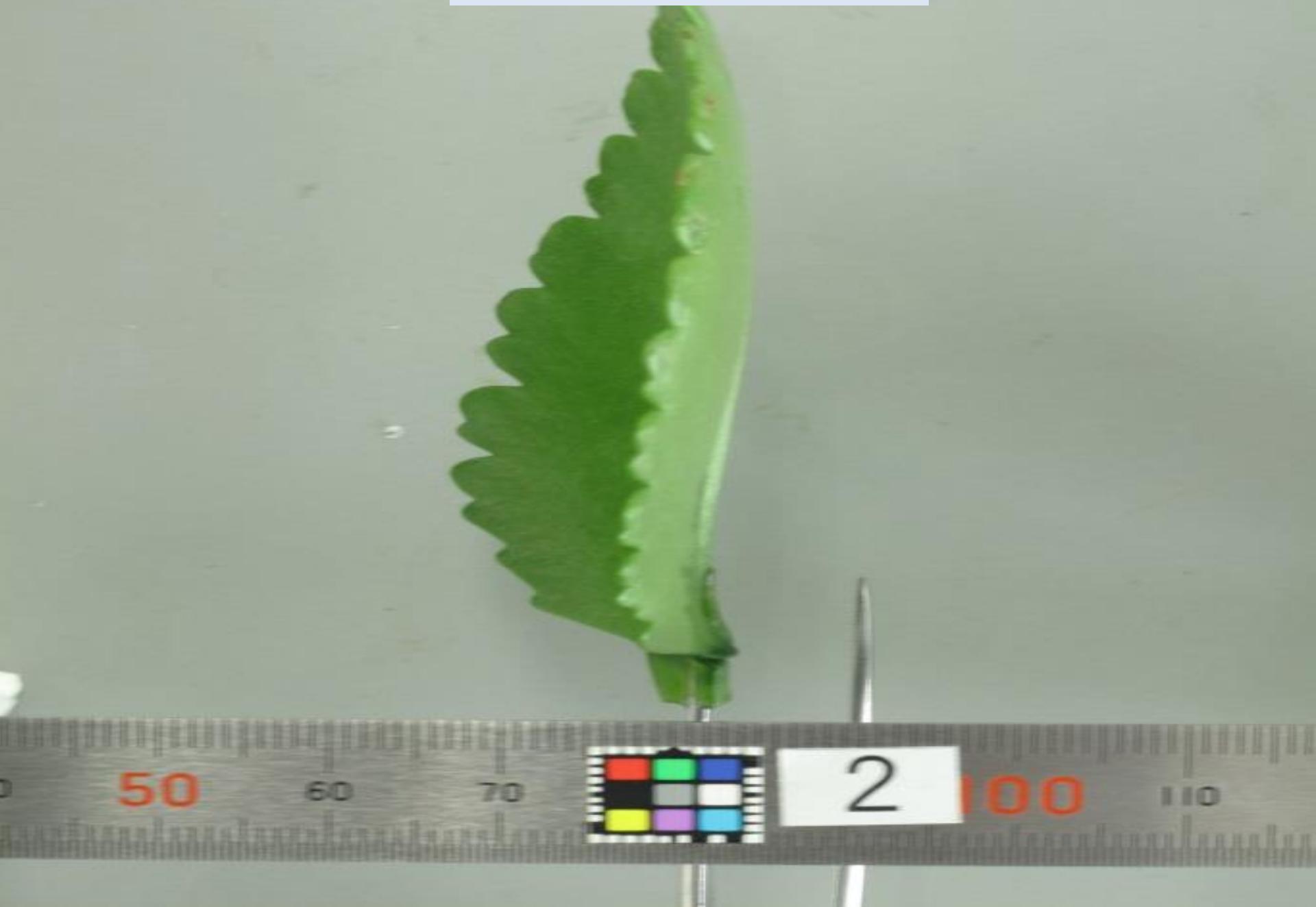
110



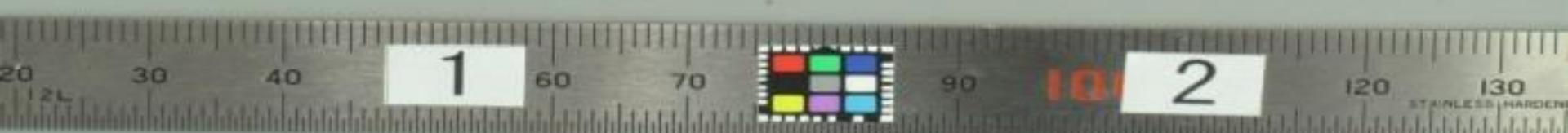
10



SIMILAR VARIETY

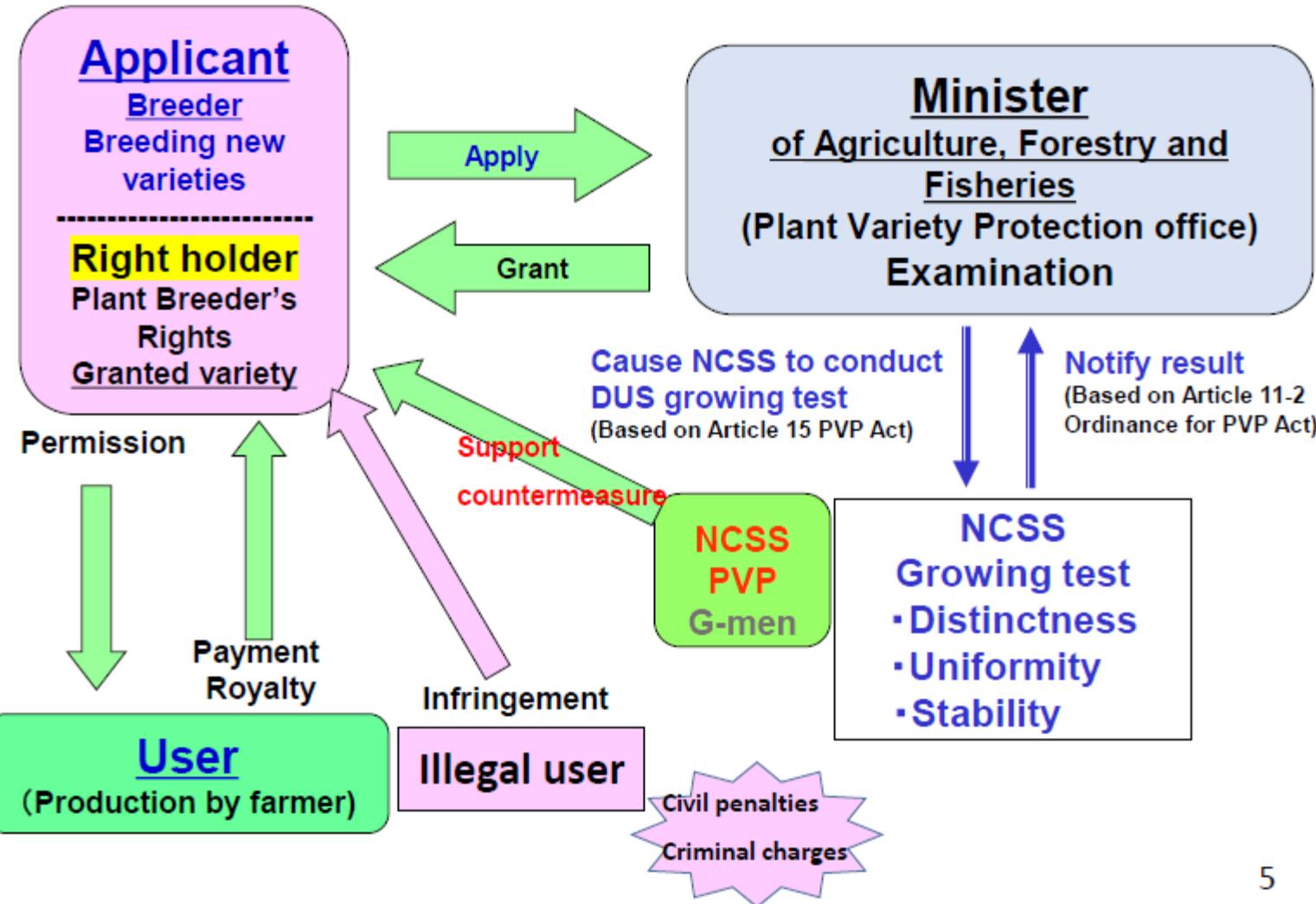


DISTINCTNOUS



KEPUTUSAN

Plant Variety Protection System



TG di Jepun telah ditambah 20 ciri berdasarkan penyakit, ketahanan kepada perosak, toleran kepada persekitaran

UPOV TG and national TG

original characteristics in Japan



Sprouting resistance



Resistance to blast disease



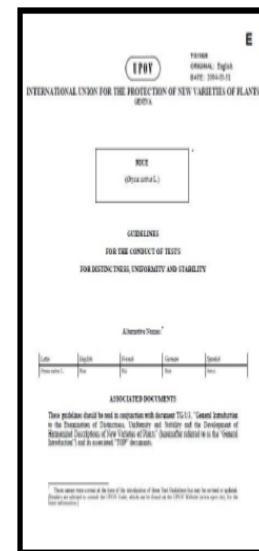
Lodging resistance



Cold tolerance

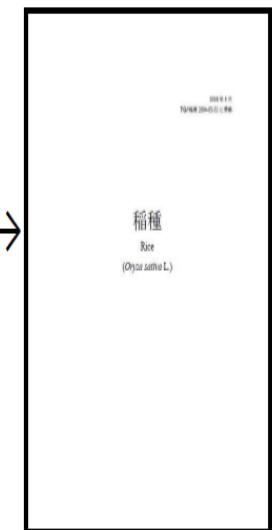
UPOV TG and national TG

harmonization



+

add 20
characteristics
(disease and pest
resistance,
environmental
tolerance...)



UPOV TG
65 characteristics

National TG
85 characteristics



Fundamental Assessment Table

Kalanchoe Assessment Table															
※ Assessment table is made from fundamental assessment table adjusted by growth ratio of the example variety 'Debbie', 'Don Juan' and 'FestivaRose'. The example variety column shows the notes described in the TG or the registered notes of each varieties.															
No.	Characteristics	note digit after the decimal point	note	1	2	3	4	5	6	7	8	9	Debbie	Don Juan	FestivaRose
71		mm	distance range		1.7	1.7	1.7	1.7	1.7	1.7	1.7		lowest value of note 5 in FAT	8.2	
72			median		2.8	4.5	6.2	7.9	9.6	11.3	13.0		lowest value of note 5 in Assessment table	7.1	
73			example variety		Debbie								distance range in F	2.0	
74													distance range in Assessment table	1.7	
75															
76	27 Only varieties with single flowers: Corolla lobe: width	1 mm	range		2.5	3.5	4.5	5.5	6.5	7.5	8.5	9.5	mean of past measurements	5.9	
77					~	~	~	~	~	~	~	~	mean of measurement in this year	5.7	
78					2.4	3.4	4.4	5.4	6.4	7.4	8.4	9.4	growth ratio	0.97	
79			mm	distance range		1.0	1.0	1.0	1.0	1.0	1.0	1.0	lowest value of note 5 in FAT	5.7	
80				median		3.0	4.0	5.0	6.0	7.0	8.0	9.0	lowest value of note 5 in Assessment table	5.5	
81				example variety		Debbie							distance range in F	1.0	
82													distance range in Assessment table	1.0	
83															
84	28 Only varieties with single flowers: Corolla lobe: ratio	2 ratio	range		0.8	1.1	1.4	1.7	2.0	2.3	2.6	2.9	mean of past measurements	0.98	
85					~	~	~	~	~	~	~	~	mean of measurement in this year	0.90	
86					0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	growth ratio	0.92	
87			ratio	distance range		0.3	0.3	0.3	0.3	0.3	0.3	0.3	lowest value of note 5 in FAT	1.9	
88				median		0.9	1.2	1.5	1.8	2.1	2.4	2.7	lowest value of note 5 in Assessment table	1.7	
89				example variety		Debbie							distance range in F	0.3	
90													distance range in Assessment table	0.3	

Legal bases

Duration of PBR, Application Fee and Registration Fee

- 25 years from the date of the grant of PBR ([Article 19, PVP act](#))
- 30 years for Woody Plants ([Article 19, PVP act](#))
- Application Fee 47,200 JPY ([Article 8, Ordinance for PVP act](#))
 - (358EUR (132JPY÷1EUR) 441USD (107JPY÷1USD))
- Registration Fee ([following amount prescribed by Article 19, Ordinance for PVP act](#))

Classification of years	Amount of fee
From 1st to 3rd year	6,000 JPY per year
From 4th to 6th year	9,000 JPY per year
From 7th to 9th year	18,000 JPY per year
From 10th to 30th year	36,000 JPY per year

KESIMPULAN

- ✓ Penambahbaikan peralatan dan kelengkapan untuk kerja-kerja DUS seperti peralatan fotografi
- ✓ Menaiktaraf sistem permohonan melalui atas talian
- ✓ Memperkemaskan database bagi setiap tanaman dan mengaplikasikan ‘Fundamental Assessment Table’ @ FAT
- ✓ Galakkan kepada syarikat atau individu dalam menghasilkan varieti-varieti baru dan membangunkan industri pertanian negara
- ✓ Peranan akta benih yang banyak membantu perlaksanaan undang-undang berkaitan industri biji benih di Malaysia.

TERIMA KASIH

