

Breeding, Production and PVP of Fruit Variety in Malaysia

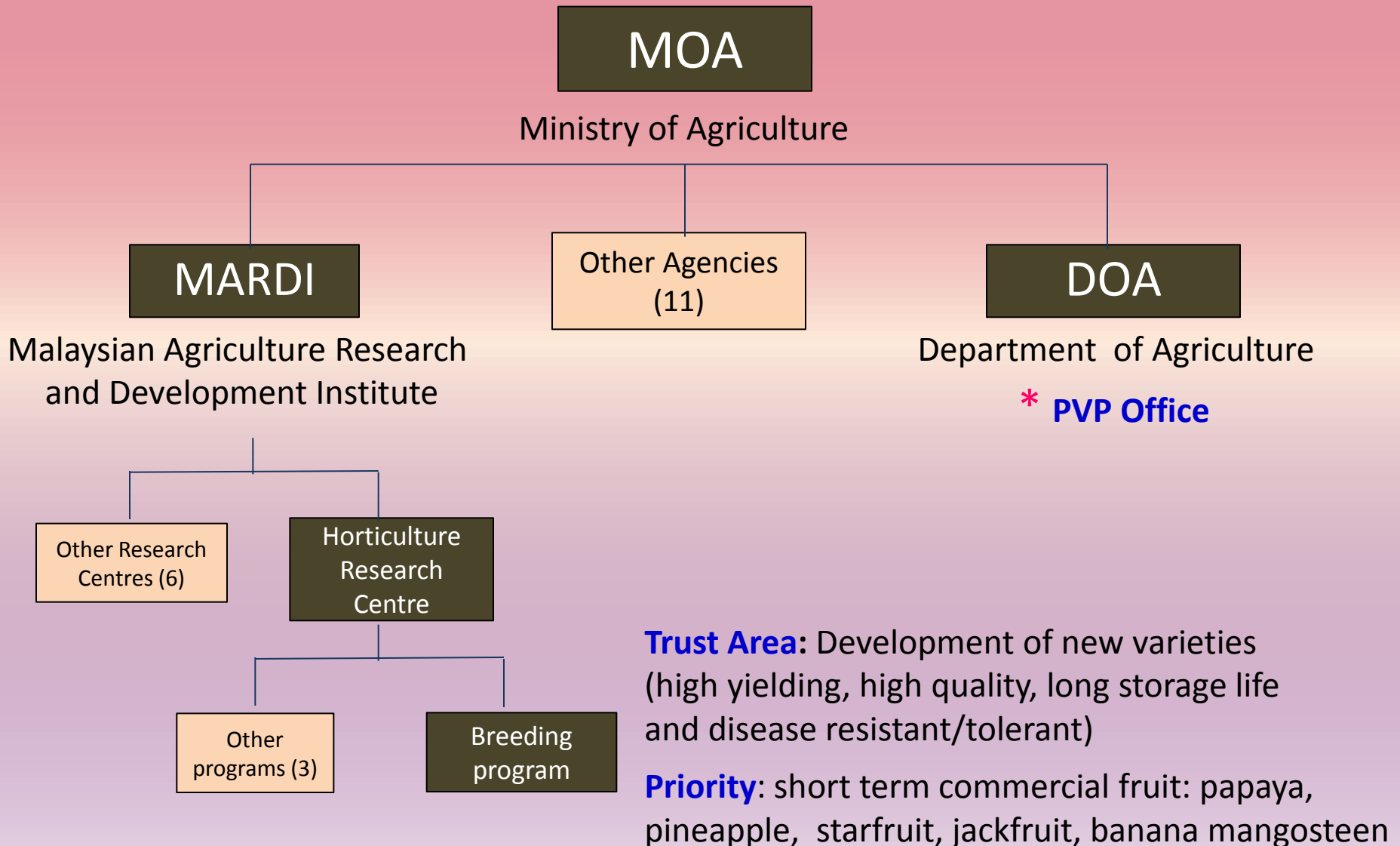
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ABD RAHMAN MILAN
YM TENGKU AB MALIK TENGKU MAAMUN
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Malaysian Agricultural Research And Development Institute

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SOO FOONG LIAN**

Department Of Agriculture

Ministry of Agriculture



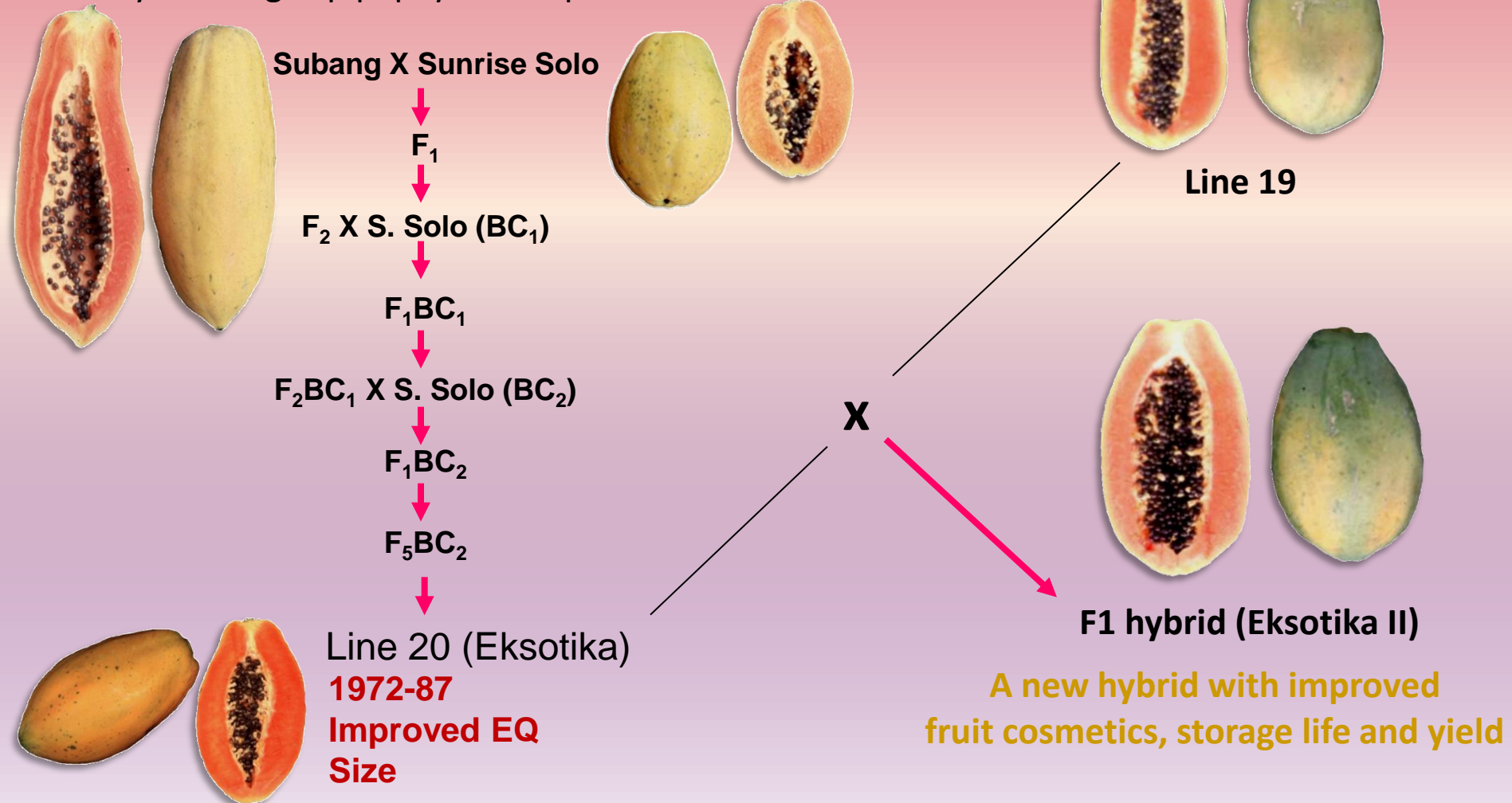
Backcross breeding program (1972-1987)

The development of F1 hybrid program (1985-1991)

New variety

Carica papaya

- Released in 1987
- Malaysia's flagship papaya for export



Maspine



Ananas comosus



- 9 clones – registered (Mac 2013)
- Fruit cylinder in shape,
- Fruit weight: 1.8 kg,
- Thin skin, recovery rate 20% ('Gandul' 16-18%)
- Golden colour flesh, colour still retain after processing
- Sugar content (TSS) 16%

Josapine

New variety



- Released 1996
- Sugar contents (TSS) 16 – 17%
- Weight: 1.2 - 1.5 kg
- Pleasant aroma
- Long shelf-life
- Tolerant to black heart disorder

Durian (*Durio zibethinus*)

New variety



- Cross between D24 and D10
- Started early 1960s
- Released in 1990s
- Tasty
- Popular

- 124 clones – registered
- D1 (1934) D 199 (2013)



MDUR79



MDUR78



MDUR88

Melomas

- Registered 2002
 - Tolerant to Greening diseases
 - Weight: 1.0 - 1.2 kg
 - Sweet 11.4 – 12.0 °Brix
 - Less fibrous
 - Juicy and low acid
 - No bitter taste
-
- 3 clones – registered
 - PO54 (1990) PO56 (2002)



Mega (C64)

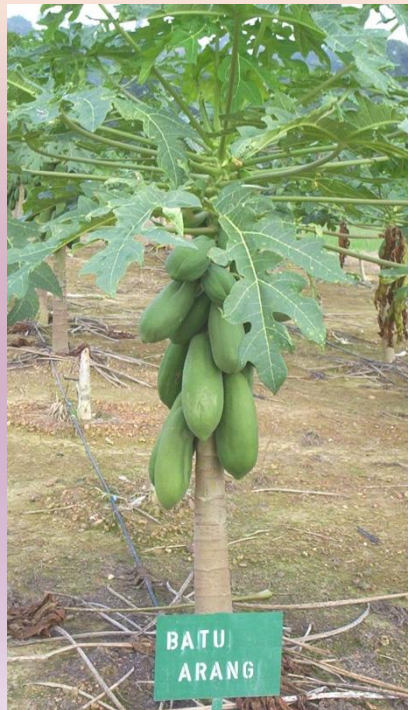
- Registered 2001
 - Tolerant to stem-gall formation
 - Weight: 300 – 400g
 - Sweetness 20 - 21 °Brix
 - Single fruit per panicle
-
- 21 clones – registered
 - C4 (1937) C68 (2012)



Papaya mass selection (1972-1975)

Popular variety
(farmer's selection)

- ❑ Short-term program
- ❑ For 'cleaning' and stabilising local varieties selected by farmers
- ❑ 'Subang 6' is a selection suitable for fresh consumption
- ❑ 'Sitiawan' and 'Batu Arang' for processing
- ❑ Sekaki.



Starfruit

(*Averrhoa carambola*)

Popular variety
(farmer's selection)



B10



- 18 varieties registered (DOA)
- B1 (1937).....B19 (1989)



B17

Rambutan

(*Nephelium lappaceum*)

Popular variety
(farmer's selection)

- 61 clones (DOA)
- R1 (1937).....R193 (1991)



R191



R156

R156

- 76 clones (DOA)
- MA3 (1937).....MA226 (1992)



Chokanan



Harumanis

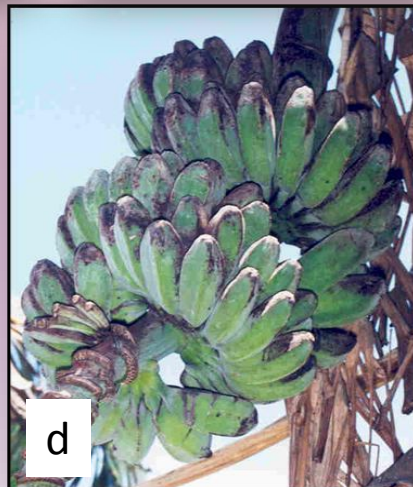
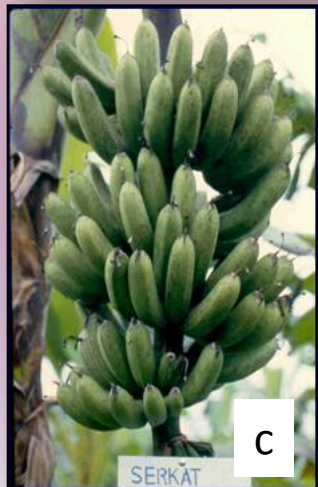
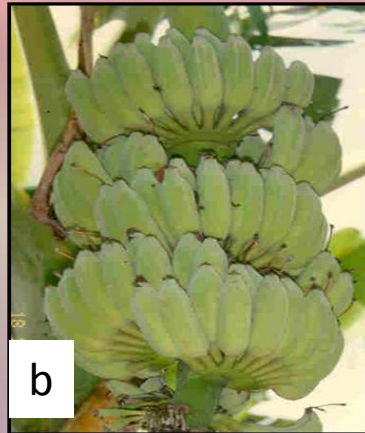
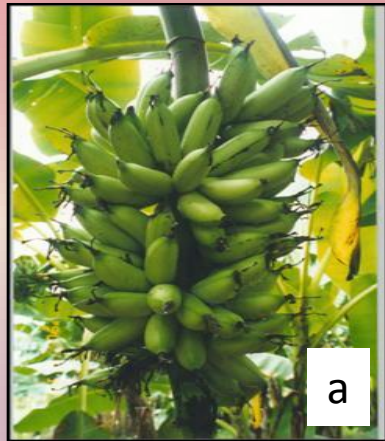
Banana

Guava

Popular variety
(farmer's selection)

(*Musa spp*)

- 14 clones – registered
- MP1 (2013) MP14 (2013)



(*Psidium guajava*)

- 14 clones – registered
- GU3 (1951) GU16 (2013)



- Pisang Mas
- Pisang Abu
- Pisang Berangan
- Pisang Nipah

Mangosteen

Jackfruit

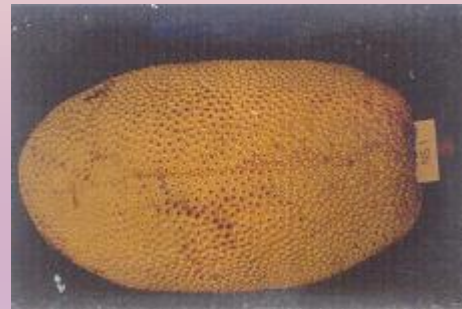
Popular variety
(farmer's selection)

(*Garcinia mangostana*)

(*Artocarpus heterophyllus*)



J29 (1973)



J31 (1973)

14 clones – registered

**CURRENT STATUS
ON PVP
IMPLEMENTATION
IN MALAYSIA**

Applications

Granted PBRs

Substantive
Examinations

Applications

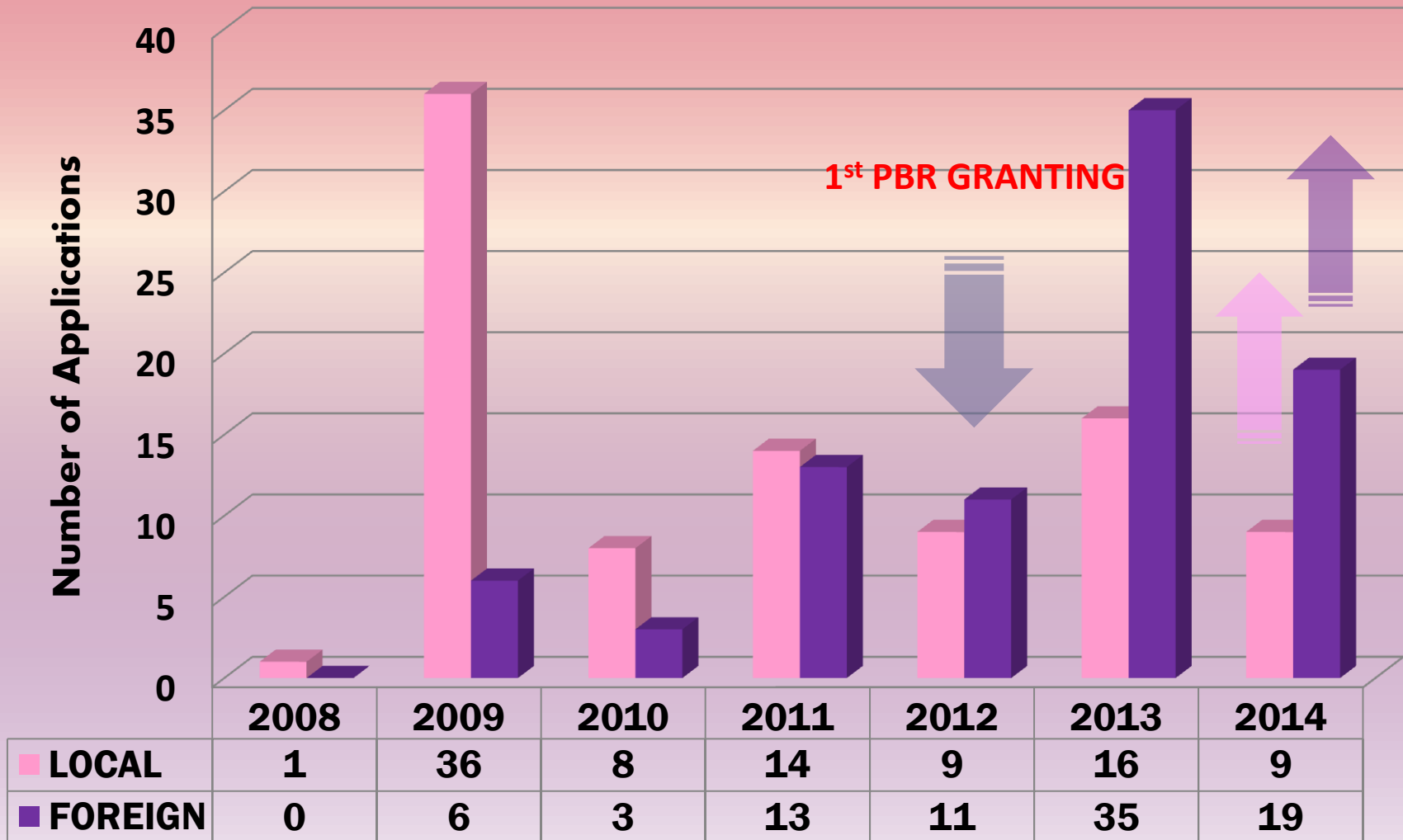
Number of Applications Received ; 2008 – August 2014 (by Crop Type)

Crop Type	Total Applications	Rejected	Withdrawn
Ornamentals	94	0	0
Rice	20	5	0
Forest Plantation Sp.	19	0	0
Fruit	18	0	0
Industrial Crop	11	0	0
Vegetables	11	0	1
Herbs	4	0	0
Mushroom	3	0	2
TOTAL	180	5	3

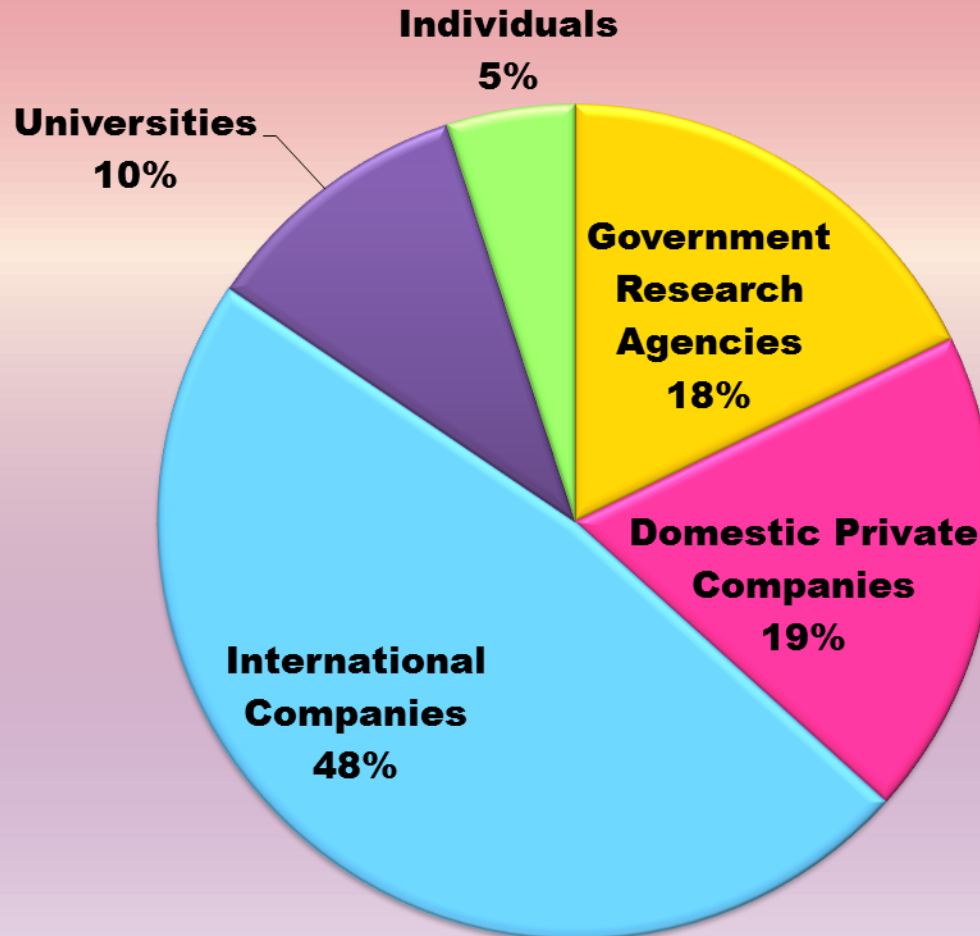
Fruit Crop (2008 - August 2014)

	Fruit Crop	Variety	Granted	Rejected / Withdrawn
1	Papaya	Frangi	2012	-
2	Papaya	Glimmer	-	Yes
3	Papaya	MARDI Purple	Under testing	-
4	Pineapple	Dole-14	Under testing	-
5	Pineapple	View of Sunset	2015	-
6	Dragon Fruit	Pink Dragon Sunlike	2014	-
7	Dragon Fruit	Iguana	2015	-
8, 9,10	Kiwifruit	Zesy 002, Zesy 003, Zesh 004	2015	-
11	Lime	Merdeka	2014	-
12	Durian	Kim Luang	2014	-
13	Watermelon	SuperHort Red	Under testing	-
14,15, 16,17	Guava	Guvano, Guvito, Gennova, G-MAS	Under testing	-
18	Melon	Permai 5	Under testing	-

Number of PVP Applications by Nationality (2008 – August 2014)



PVP APPLICATIONS by APPLICANT CATEGORIES (2008- August 2014)



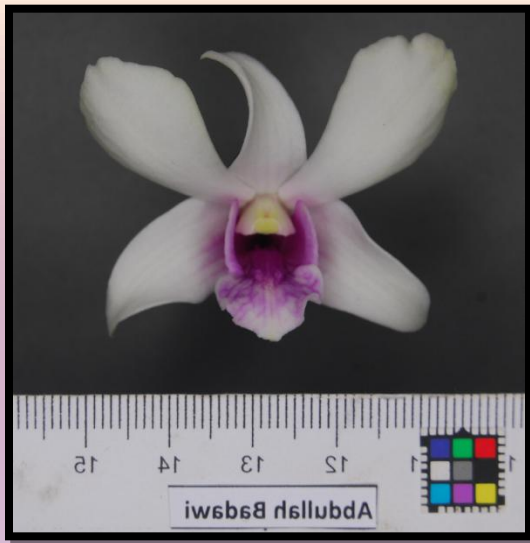
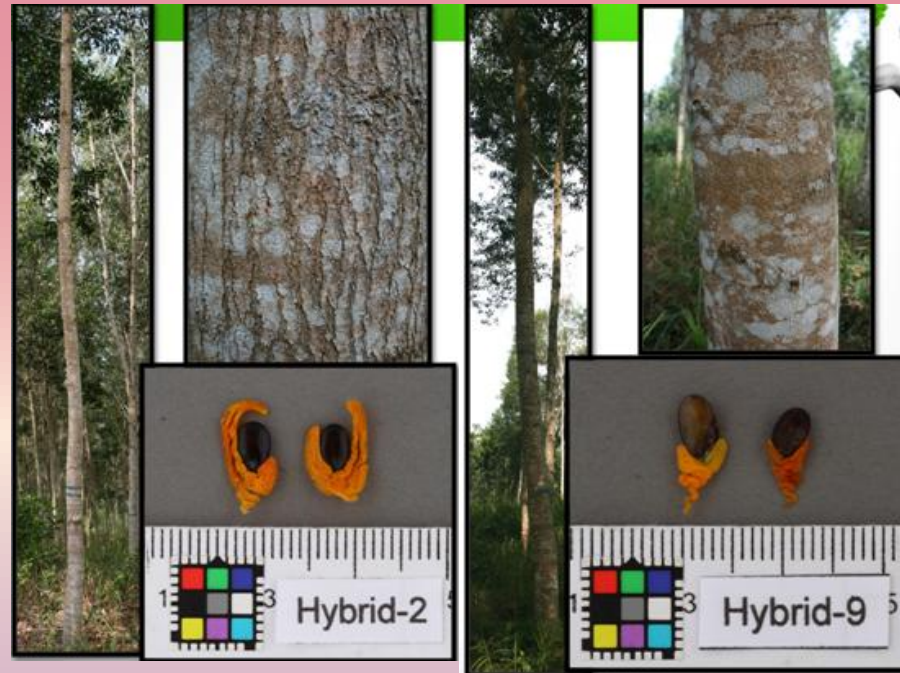
PVP Applications Received 2014

No.	Crop	Number of Applications	Applicant
1.	Chrysanthemum	20	Dekker Breeding B.V.
			Deliflor Royalties B.V.
			Malaysia Nuclear Agency
2.	Orchid	2	Malaysia Nuclear Agency
3.	Tunera	1	Department of Landscape
4.	Canna	1	Department of Landscape
5.	Lettuce	4	Rijk Zwaan Zaadteelt en Zaadhandle B.V.
	TOTAL	28	

Protected Varieties

YEAR of GRANTING	Term	NUMBER OF TITLES
2012	April	25 (Acacia, Chrysanthemum, Papaya, Orchid <i>Dendrobium</i>)
2014	May	14 (Rice, Chrysanthemum, Roselle, Durian, Capsicum)
2014	Oct.	26 (Rice, Chrysanthemum, Dragon Fruit, Lemon Myrtle)
	Nov.	6 (Chrysanthemum, Pandanus, Lime)
2015	Feb.	17 (Kiwi fruit, Lettuce, Chrysanthemum)

GRANTED (2012)



GRANTED (2014)



UKMRC-2



UKMRC-3



UKMRC-4



UKMRC-8



UKMRC-9



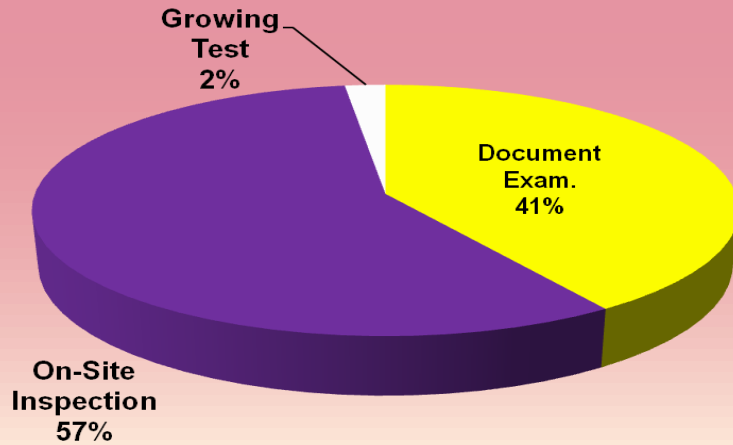
UKMRC-10



EXPECTING OCT 2014



or more ...



Examination Method	Num
<u>Method 1:</u> Document Examination	58
<u>Method 2:</u> On-Site Inspection	82
<u>Method 3:</u> Growing Test	3
Preliminary Checking (under decision)	34
Withdrawn	3
Total	180

Varieties under Testing Procedures

Method	NUMBER OF TEST
GROWING TEST	6 [Rice, Lemon Grass, Canna, Turnera]
ON-SITE INSPECTION	17 [Rice, Cacao (4), Pineapple, Capsicum (4), Orchids (5), Oil Palm (2), Papaya, Mushroom, Water Melon, Stevia]
DOCUMENT EXAMINATION	24 [Chrysanthemum, Kiwi Fruits, Lettuce]

On-site inspection



Growing Test



NEW PLANT VARIETY TESTING CENTER

TITI SERONG, PERAK

Rice



PADANG IPOH, TERENGGANU

Vegetable



SERDANG, SELANGOR

Short term
Ornamental



CAMERON HIGHLANDS, PAHANG

Tamperate



What we can contribute?

Developing and harmonizing of TG for rambutan and starfruit
in terms of technical aspect of the crops.



Thank
You