



# Uses of Multi crop Passport Data for *Musa*



# The Passport data is the Identification of the material

Throughout the Musa conservation network

- In the global In vitro collection
- Partners collections established by exchanges and collects

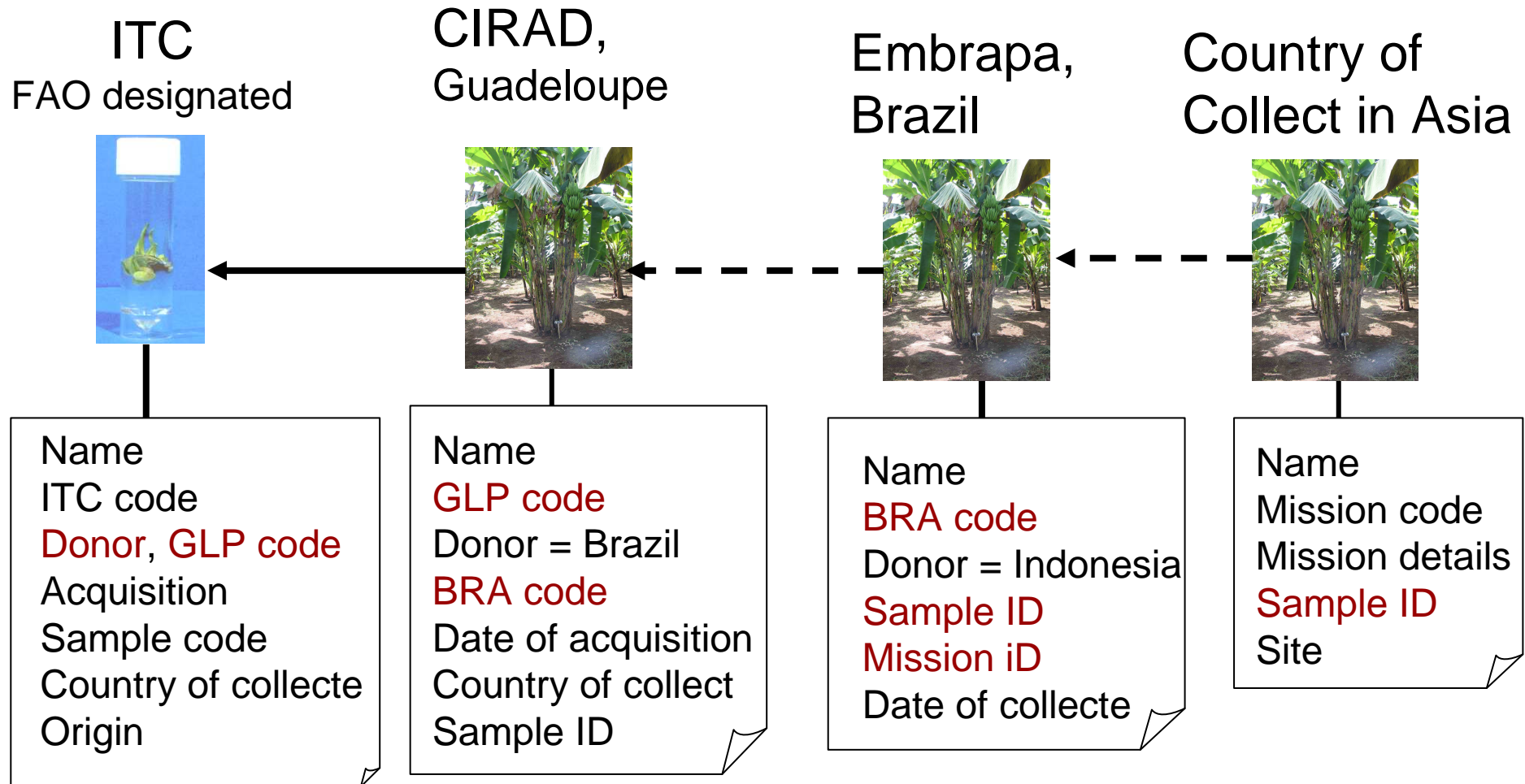
The MCPD format is fully stored in the MGIS  
Parts of MCPD are used or displayed  
according to the use

# Why a Passport data of quality is important for *Musa*?

- MGIS is a crop registry for 18 collections
- The Identity card of the accession with the unique ID of the accession
- ensures that the material stored is properly identified across genebanks and across experiments
- helps identifying unique germplasm, duplicates to support conservation strategies



# Cumulative data for the accession history



# Transit Center Distribution of Passport Data

Short Passport data  
Accession ID  
Name  
Classification  
Donor  
Origin

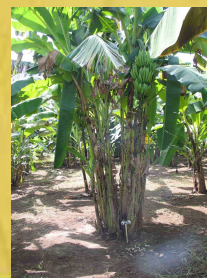
+ Accession ID  
Donor

ITC



IITA

+ Accession ID  
Donor



CARBAP Cameroun



# A PaD of quality is the result of conservation and research activities



Characterization, Field verification

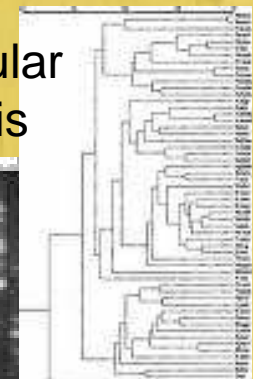
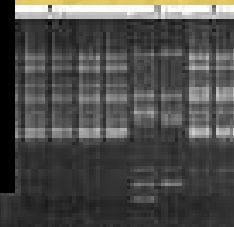
Updating date	26/09/2000
Collection	QDPI-SOUTH JOHNSTONE, Australi
Curators' MGIS code	PNG145
MGIS Accession ID	53R0036
Name	Kalapua n.2
Complementary information	Choose listing
ELP	
ITC code	ITC0991
Plant status	Landrace
Genus	Musa
Section	ELMUSA
Species/Group	ABB
SubSpecies/SubGroup	Kalapua
Type/Form	Kalapua cv. Kalapua #2
FAO designated	
Availability	
Uses	
Honor country	Papua New Guinea
Date of acquisition	22/10/1988
Type of material received	

Passport data

Ploidy through flow cytometry



Molecular analysis

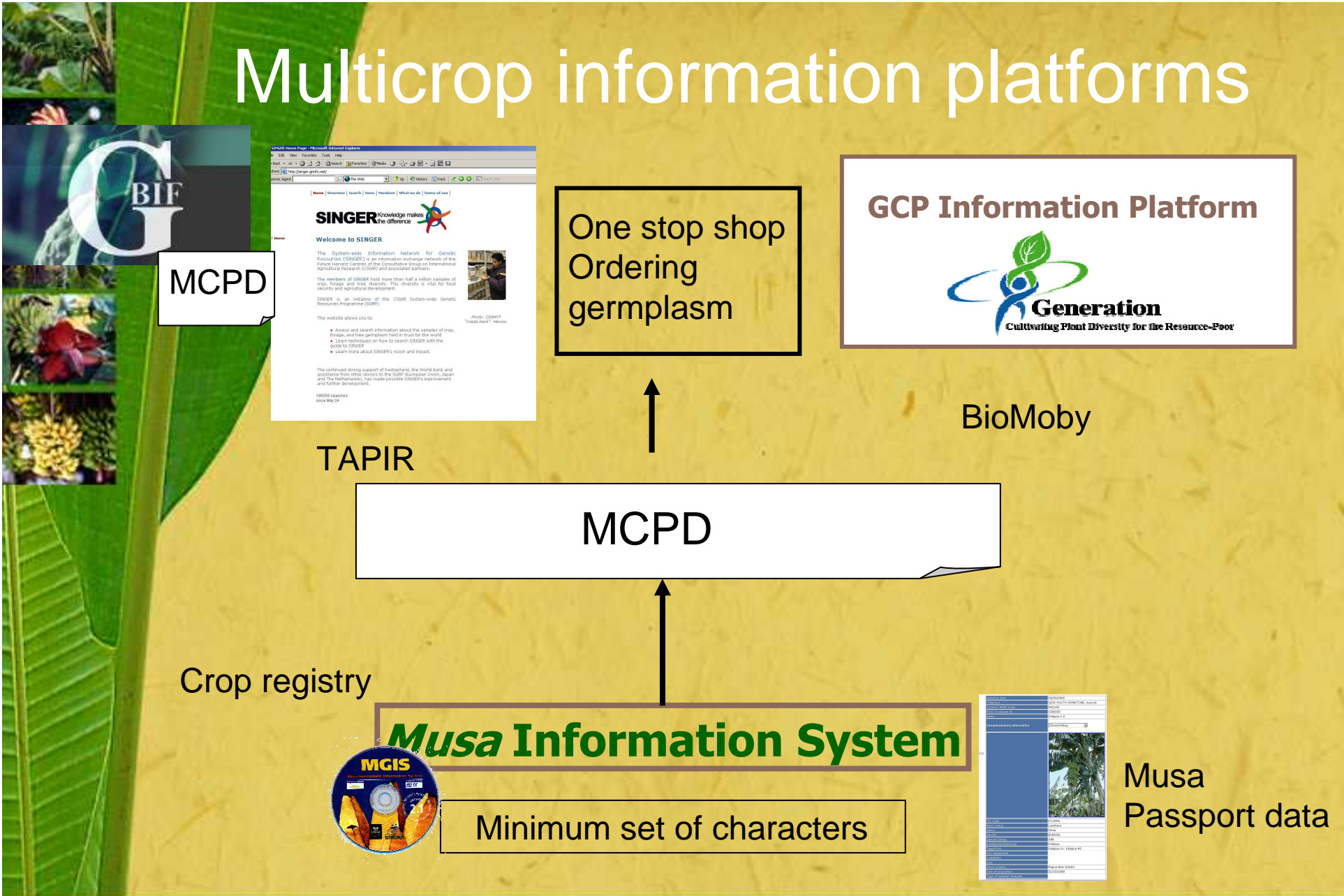


Diversity analysis

# Multipartners Workflow for GCP

Action	Actors		Information	Add info
selection of the accessions of interest for germplasm sets	ITC & experts:	Sent to all partners	Excel list with the Passport data & ITC code	
Leaf samples sent from the field collection in Guadeloupe	CIRAD experts	Sent to CIRAD	Excel list with the Passport data & ITC code + Leaf sample ID	+ <b>CIRAD Accession code</b> + <b>Leaf sample ID</b>
DNA extracted from leaf samples sent to various laboratories for SSR		Sent to genotyping plant.	Excel list with the Passport data & ITC code + Leaf sample ID	+ <b>DNA extract ID</b>
DNA extracts from the IITA collection	IITA & CIRAD experts	DNA sent to CIRAD	Excel list with the Passport data & IITA code, ITC code	+ <b>DNA extract ID</b>
Molecular characterization with SSR and DARTS			Excel list with the Passport data & CIRAD, IITA code, ITC code	+ <b>results in Saragosse format</b>

# Multicrop information platforms





# Identifying the material by comparison of Passport data

- ITC code and Curator code
- Photos
- Classification, ploidy, results of SSR
- Donor and date of acquisition
- Previous location indicating : donor, date of acquisition, mission, sample code, date of collecte
- Shipments made by ITC

Then the ITC code can be attributed or not  
➔ Passport data is validated by experts

# PaD Integrity checking

MGIS Application - ADMIN [Admin]

Accessions Collections Collecting missions Taxonomy Photos and maps Administration Other Manuals Exit

PNG311 / Utafan / 01AUS0430237 [QDPI-SOUTH JOHNSTONE, Australia]

Identification Acquisition Breeding Location Bibliography Characterization Evaluation Photos

**Identification**

Collection 01.AUS043 MGIS code 01.AUS0430237 Creation date 22 déc. 2000 FAO Institute code AUS043

Accession code PNG311 ITC code ITC0913

Local / vernacular name Utafan

Translation

Local language

Curator's name Jeff DANIELLS

Status of the plant Cultivar

Collected in Papua new guinea

Taxonomy

002.001.020.501.505

MUSA

AUSTRALIMUSA

Fe'i

Unknown

Unknown cv. Utafan

Used for breeding

**Suggestions**

Status of the plant

Taxonomy

Local / vernacular name

**Exchange**

Available

Not available

Date

**Maintenance**

Alive

Lost

Eliminated

Notes

Date DD / MM / YYYY

Cause

Field verification

Generic comments about this accession

Synonyms

# PaD Integrity checking

MGIS Application - ADMIN [Admin]

Accessions Collections Collecting missions Taxonomy Photos and maps Administration Other Manuals Exit

PNG311 / Utafan / 01AUS0430237 [QDPI-SOUTH JOHNSTONE, Australia]

Identification Acquisition Breeding Location Bibliography Characterization

Acquisition date: 04 juin 1989

FAO designated:  Yes  No  Undefined

Type of material received: Sucker

Country: Papua new guinea

Donor code: PNG311, MISSION CODE: PNG004

Location: Collecting site data

4TH IBPGR/QDPI BANANA GERPLASM COLLECTING MIS

Previous locations:

Location	Accession code	Country
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Acquisition agreement Date: DD/MM/YYYY

Acquisition agreement for improved varieties Date: DD/MM/YYYY

Synonyms

PNG311 / 01AUS0430237 (Papua new guinea) [QDPI-SOUTH JOHNSTONE, Australia]

Localization / sample treatment Environment / sample description Photos

**Geographical situation**

Latitude: -2.9866667  
02° 58' 00"  
 North  South

Longitude: -150.6166667  
150° 37' 00"  
 East  West

Elevation (m):  
Country: PNG  
Papua new guinea

**Collecting information**

Site code: Collector code: PNG311

Collecting date: 04 juin 1989

**Pro and post movement activities data**

Cultural practices: Accession destination: QDPI, South Johnstone, Australia

**Fertilizers and cultural practices**

Fertilizers and cultural practices: Plant protection:

**Prevailing stress**

-Susceptibility of yellow Sigatoka: very low or no visible sign

-Presence of pests and diseases:

Black leaf streak: 0

Black cross: 0

Cordana: 2

Speckle: 0

Collecting mission

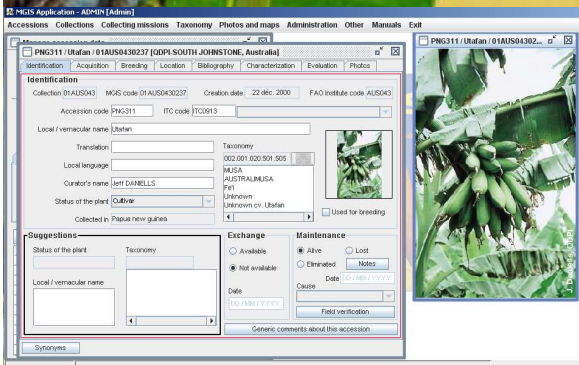
# Additional information for germplasm identification and exchange


## Quality of the Identification

- Photos
- Classification suggested by experts
- Ploidy by flow cytometry
- Results of molecular markers , fingerprints
- Minimum morphological descriptors
- Field verification results

## For a proper germplasm distribution

- Availability status and health status
- FAO designation
- Acquisition agreement signed with donor
- Date of acquisition





# *Musa* Information System

## Main issues of data quality in PaD

- Lack of information (research) or not updated
- Incomplete or wrong taxonomic classification, spelling errors, numerous synonyms
- Material is mislabelled: the PaD does not correspond to the material, material became variant
- The origin is not properly documented
- Missing or wrong Geographical coordinates

# Feedback to curators

- Comparison should return a list of spelling errors, inconsistencies or doubtful results
- Validation, corrections by curators researchers
- Validation locked





# Levels of application for data quality guidelines

- Data capture
- Data entry in crop databases
- Data submission
- Multicrop platforms
- Experts group for validation (TAG)
- Document uncertainty, inaccuracy (standard) at all level

Identify actors, practices and tools for quality checking and feedback each step fo the data flow

# Guidelines for a minimum set of pictorial descriptors

# A visual PaD on Google Earth



Guidelines for the minimum set of photos for accessions submitted to field verification

**Photo 8: Bract internal colour & flowers**

- Do not use the older, outermost rolled bract.
- Remove the bract, not yet rolled or detached, together with underlying flowers and show the internal colour (use the colour chart A as well) place the flowers above the bract when taking the picture.

**Photo 9: Bract shape**

Flatten the apex of the bract.

1. Round  
2. Heart-shaped  
3. Broadly ovate  
4. Oval  
5. Obovate and light

**6.6 - Male Flowers**

**Photo 10: One flower with colour of the anthers.**

- These must be completely fresh, but if only fallen flowers are available, take a photo anyway! Best on a plain background but black is very tricky! Beware of sunshine & camera flash washing out colours.
- Remove a flower (centre of row, not ends). Make sure it has a typical amount of colour (especially important in those with pink & pink-purple streaks).
- Lift the flowers slightly. Open one flower in order to see the colour of the anthers.
- Add the colour chart on the photo

Note: for *Musa acuminata*, the colour changes at the base - For ABB, flowers show a reddish colour in various degrees.

**6.4 - Bunch and male bud**

1. Follow vertically  
2. At an angle  
3. Side square  
4. Horizontal  
5. Bent

**Musa Germplasm Information System**  
Full passport data of accession

Updating date	23/07/2006
Collection	RF-SOLOK, Indonesia
Curator's MGIS code	RF-578
MGIS Accession ID	RR0162
Name	Fungah mas
Complementary information	Choose listing...

# Issues

- How to design a solid workflow that guarantee the quality
- How to disseminate the best practices on data quality?
- What is the delivery mechanism?
- Participatory development of the guidelines?

