Workplan/Budget Highlights (Aligned with IDT Initiative)

Module 3 - Genotyping / sequencing tools and services

Presenter: Ana Luisa Garcia-Oliveira

CGIAR Excellence in Breeding Platform

Module 3 Genetic Gain contribution

1. Enabling access to shared genotyping services
2. Improving procedural workflows for sampling logistics and tracking
3. Centralization of genotyping service within the OneCGIAR ambit
4. Genomic selection network
5. EBS Integration

Excellence in Breeding Platform

Enabling access to shared genotyping services

2022 Targets /Milestones

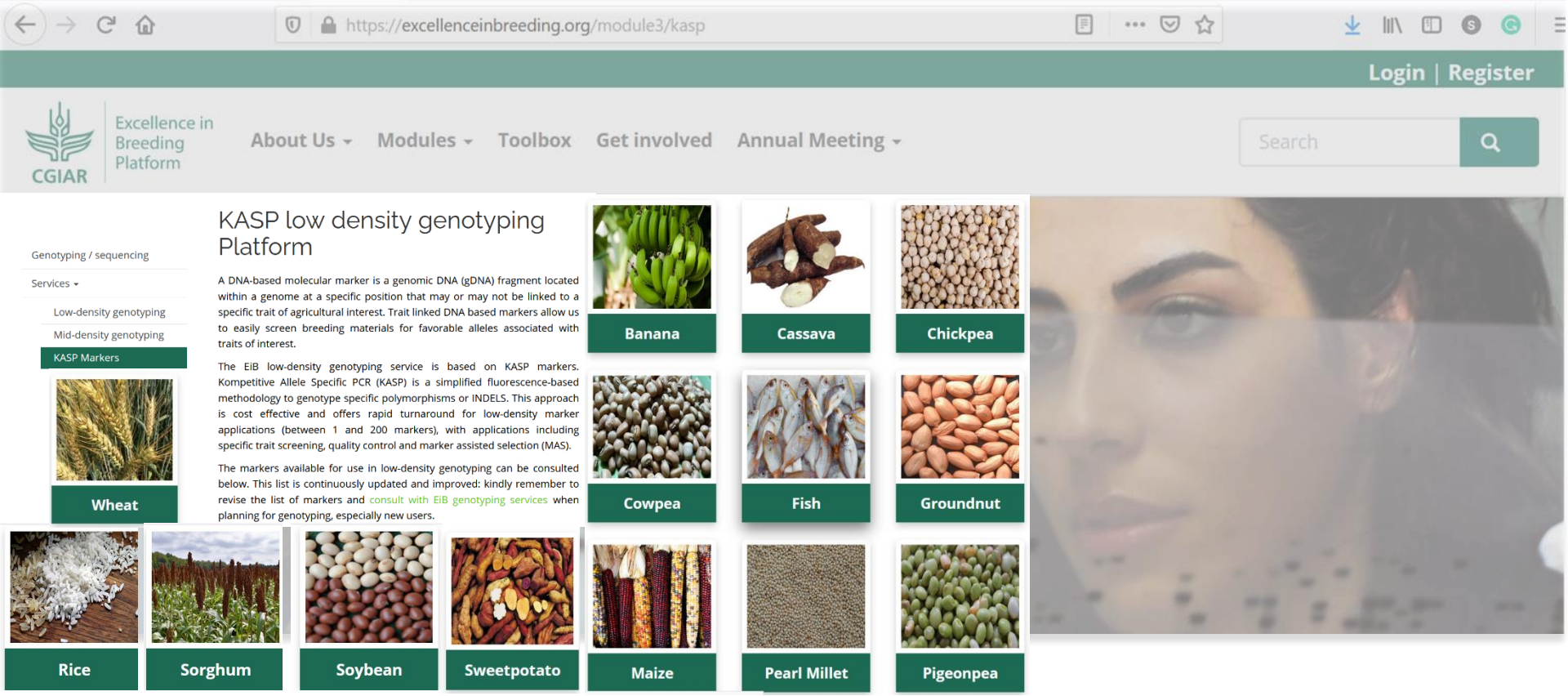
1. LDSG/MDSG service contract renewed, prices negotiated (2021)
2. Maintain annual business volume of MDSG-$800K and LDSG-$800K
3. To establish high density genotyping service contract (2021)
4. Development/ optimization of mid density panels (2021)
5. Genome assemblies developed/ curated for all crops (2022)
6. Marker discovery, resequencing panel data are generated (2021, 2022)
7. Crucial crops have a validated QA/QC panel (2021, 2022)

Budget : $30,000 (Most of the budget activity through CtEH)

Deliverable access : 1-3 Dropbox / 4-7 Toolbox

CGIAR Excellence in Breeding Platform

LDSG Status



Refer to: https://excellenceinbreeding.org/module3/kasp

CGIAR Excellence in Breeding Platform

MDSG Status

Marker availability

Crop	Panel name	Vendor	Marker density	Status
Cowpea	Cowpea DArTag EiB (1.0)	DArT	2.6K	Implemented
Groundnut	Groundnut DArTag EiB (1.0)	DArT	2.5K	Implemented
Potato	Potato DArTag EiB (1.0)	DArT	2.1K	Implemented
Rice	1K RiCA (v4)	Agriplex / DArt	1K	Implemented
Wheat	Wheat DArTag EiB 2.4K (1.0)	DArT	2.4K	Implemented
Wheat	Wheat DArTag 3.9K EiB (2.0)	DArT	3.9K	Validation
Maize	Maize DArTag EiB (2.0)	DArT	3.5K	Validation
Sorghum	Sorghum DArTag EiB (1.0)	DArT	3.5K	Design
Pigeonpea	Pigeonpea DArTag EiB (1.0)	DArT	2K	Design
Finger Millet	TBA	DArT	2K	Planning
Cassava	TBA	DArT	3-4K	Planning

Refer : https://excellenceinbreeding.org/toolbox/services/mid-density-genotyping-service

CGIAR Excellence in Breeding Platform

Elite line reference assembly & WGRS

CROP	CROP	CROP
Wheat	Potato	Cassava
Sweet potato	Pearl Millet	Chickpea
Common bean	Finger Millet	Yam (D. Rotundata)
Cowpea	Sorghum	Rice
Groundnut	Pigeon Pea	Maize

CGIAR Excellence in Breeding Platform

Improved procedural workflows for sampling logistics and tracking

2022 Targets /Milestones

1. To Conduct virtual/ in person training workshops
2. Full roll-out of sample submission tool
3. Pilot - API enabled sample submission and data retrieval system

Budget : $20,000 (Includes contingency for Scriptoria)

Deliverable access :

1. Training/workshop report (Dropbox)
2. New sample submission tool (Toolbox)
3. Case study report (Dropbox)

CGIAR Excellence in Breeding Platform

Centralization of genotyping services

2022 Targets /Milestones

1. Strategy and business plan
    - Centralized trait introgression at Key hubs
2. Expansion of genotyping support to key hubs
3. Secure contracts and use of forecasting tools
    - Manage common consumables and expenses

Budget : $50,000 (Bulk purchase of supplies)

Deliverable access :
1-3 Status report (Dropbox)

CGIAR Excellence in Breeding Platform

Genomic selection network

2022 Targets /Milestones

1. Genome profiles of elite parental lines curated for 5 priority crops and stored in EiB approved database.
2. Stage 1 equivalent GEBV estimates for six priority crops
3. SOP on high density genotyping

Budget : NA

Deliverable access :
1. EiB approved database
2. Dropbox
3. Toolbox

CGIAR Excellence in Breeding Platform

EBS Integration

2022 Targets /Milestones

1. Genotyping analytical tools – requirement compilation along with EBS team
2. Testing of EBS Sample Manager

Budget : NA

Deliverable access :
Requirement/ Testing feedback report (Dropbox)

CGIAR Excellence in Breeding Platform