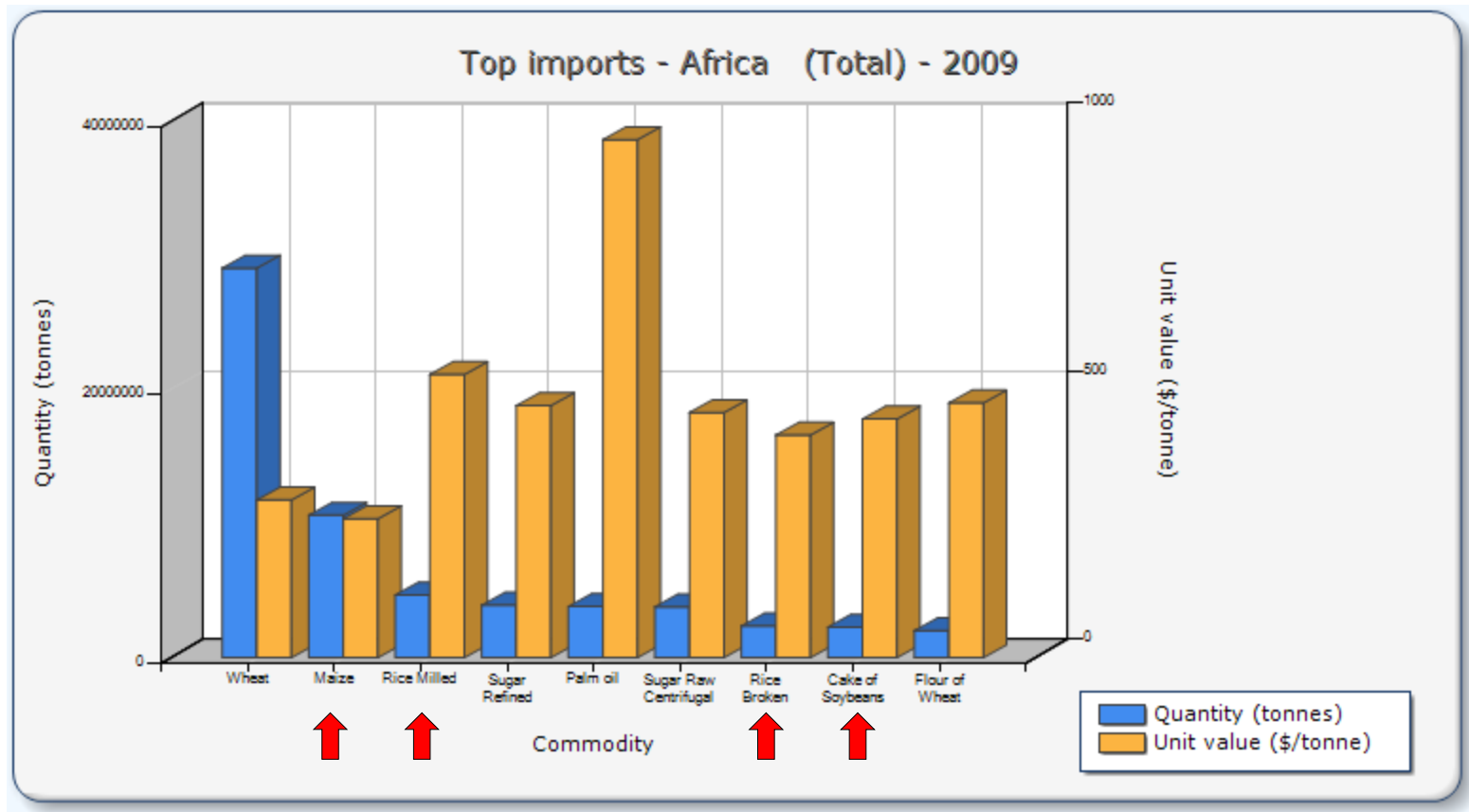




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SOUTHERN AFRICAN NETWORK FOR GM DETECTION LABORATORIES

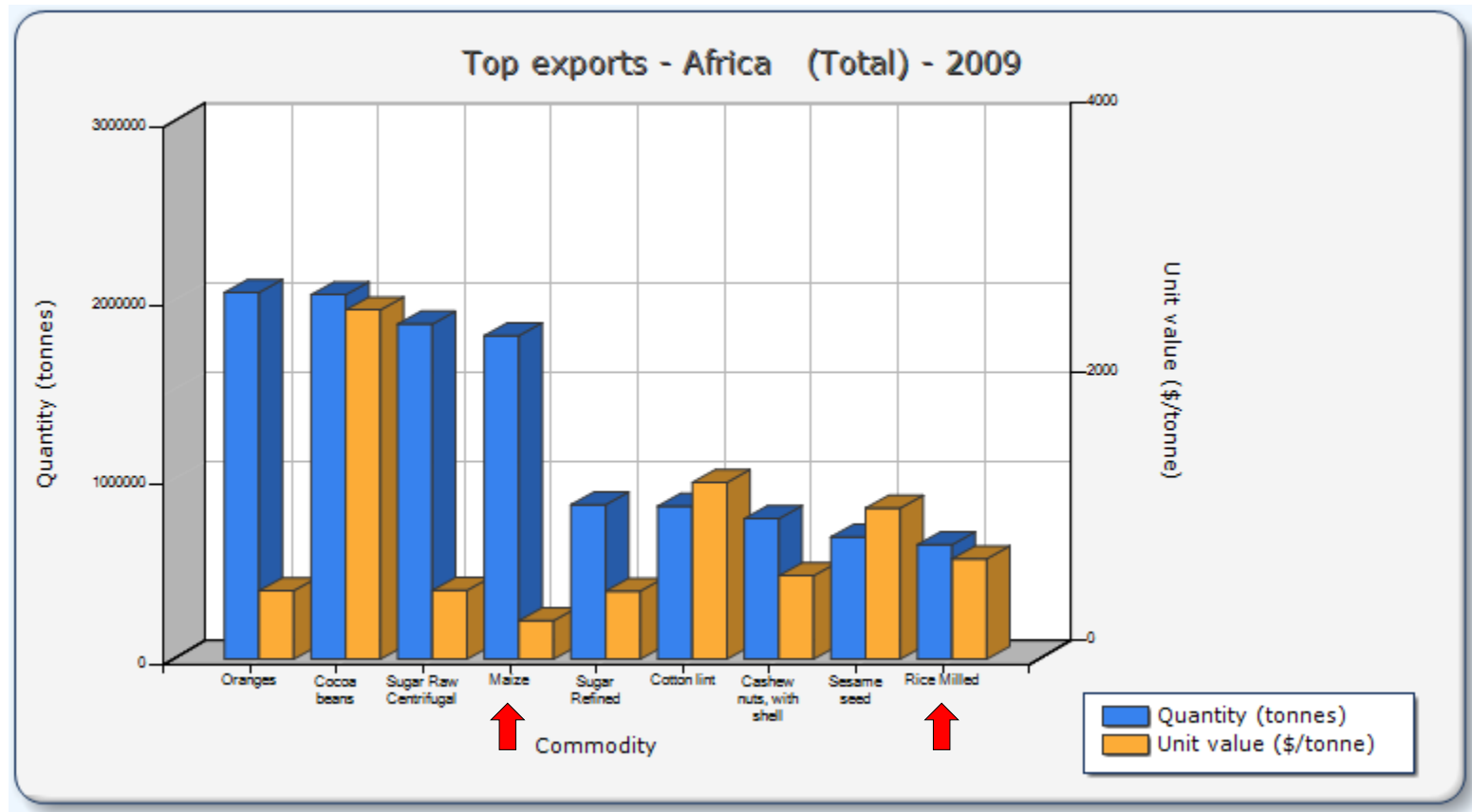
Summary of top African imports



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Summary of top African exports



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Why do we need GMO detection?

- **Competent Authorities**
 - Traceability and verification for GM labelling
 - To ensure compliance with requirements under the Biosafety Protocol
 - Pre- and post release monitoring

Basic Needs and Gaps for GM detection in Africa

- **No technical support for GM detection**
- **No mechanism for cooperation between GM detection laboratories**
- **No guidelines for best practice / minimum criteria**
- **No mechanism to facilitate training**
- **No proficiency appraisal of laboratories**
- **No links with other Networks**

SANGL Objectives

- 1. To build and strengthen capacities for GM detection**
- 2. To establish guidelines and harmonised GM detection methods**
- 3. To achieve international recognition in GM detection**
- 4. To compile technical guidance papers on GM detection**

SANGL Objectives cont.

- 5. To establish links with other international GM detection laboratories and Networks**
- 6. To establish an interactive communication platform for SANGL laboratories**
- 7. To establish inter-laboratory collaboration between SANGL laboratories**
- 8. To mobilise resources to support SANGL activities**

Participating Countries

- Botswana
- Namibia
- Madagascar
- Malawi
- Mozambique
- Swaziland
- South Africa
- Tanzania
- Zambia
- Zimbabwe

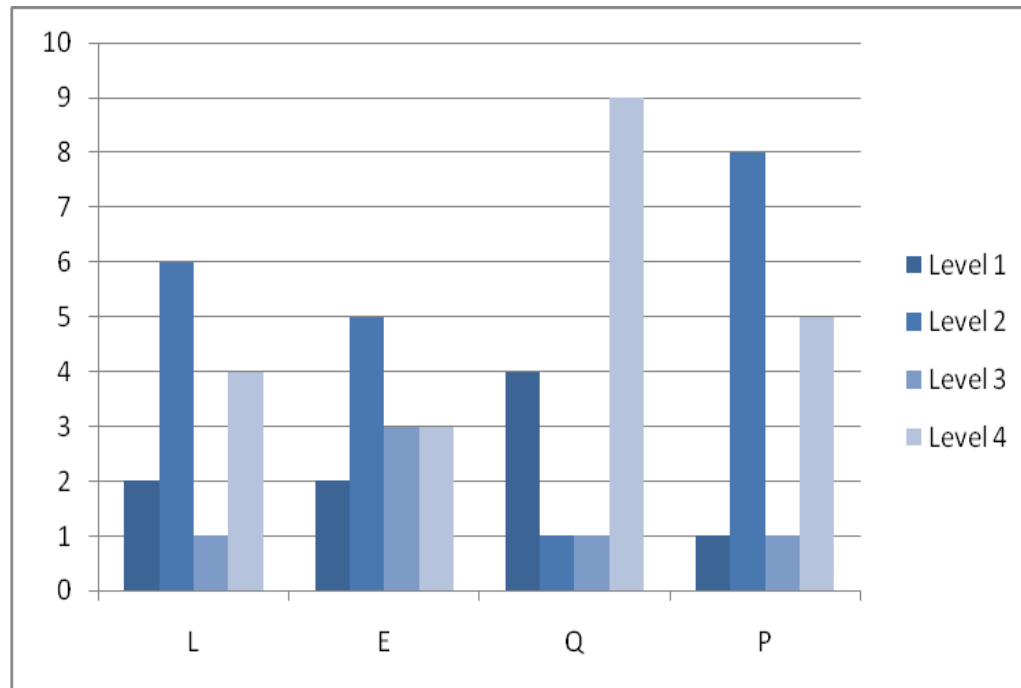
Quantifying the status of SANGL laboratories

Status Level	Functional level of laboratory (L)	Equipment (E)	Quality Management Documents (Q)	Expertise of personnel (P)
1	Laboratories that can perform PCR based GMO screening and Real-time PCR GMO quantification	<ul style="list-style-type: none"> • PCR System • Real-Time PCR System • Gel electrophoresis • Gel documentation system • Optional: ELISA Plate reader 	Quality system that includes a quality Manual, safety manual and standard operating procedures	Personnel are trained in PCR based GMO screening and GMO quantification
2	Laboratories that can perform PCR based GMO screening	<ul style="list-style-type: none"> • PCR System • Gel electrophoresis • Gel documentation system • Optional: ELISA plate reader 	GMO testing is performed according to validated methods	Personnel are trained in PCR based GMO screening
3	Laboratories that use strip and/or ELISA based testing to detect GMOs	<ul style="list-style-type: none"> • PCR System or ELISA plate reader 	Methods are not validated	Personnel are trained in strip / ELISA testing
4	Laboratories that are not able to apply any form of GMO testing	<ul style="list-style-type: none"> • No specialized equipment 	No methods	Personnel have no training

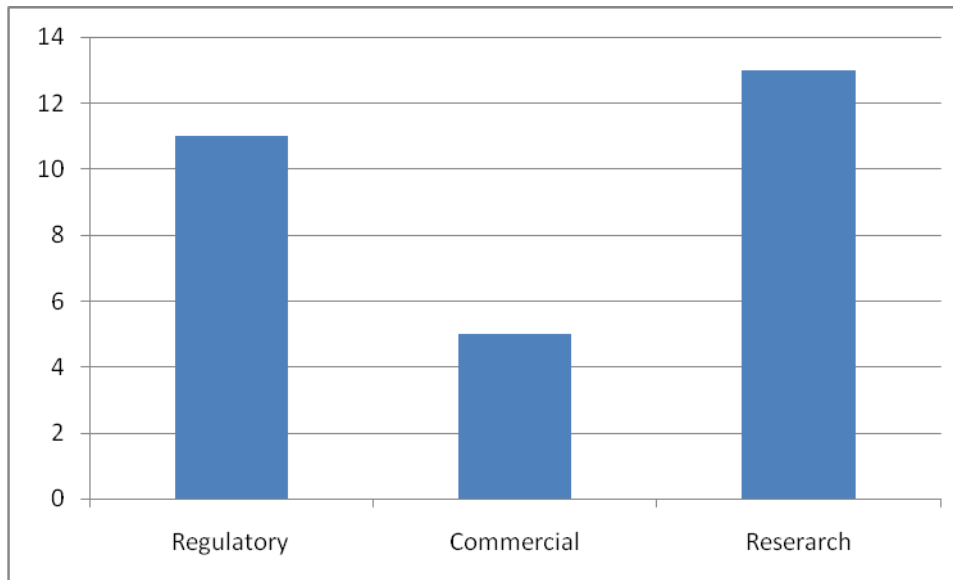
Different functional status of SANGL laboratories

No	Name of Laboratory	Status of laboratory
1.	Genetic Resources laboratory, Ministry of Agriculture, Botswana	L2, E3, Q1, P2
2.	Botswana National Veterinary Laboratory, Ministry of Agriculture, Botswana	L4, E4, Q4, P2
3.	Plant biotechnology laboratory, Bunda College of agriculture, Malawi	L4, E4, Q4, P2
4.	National Molecular Regulatory Laboratory, Chitedze Agricultural Research Station, Malawi	L4, E4, Q4, P4
5.	Laboratoriode biotecnologia –IIAM, agriculture Research Institute of Mozambique	L2, E2, Q4, P2
6.	Centro de biotecnologia, Eduardo Mondlane University Mozambique	L4, E4, Q4, P4
7.	National GMO, Training & Research Laboratory, University of Namibia, Namibia	L1, E1, Q1, P2
8.	Laboratory Services: Biotechnology Laboratory Ministry of Agriculture, Water & Forestry, Namibia	L2, E2, Q4, P4
9.	Biotechnology laboratory, University of Swaziland	L2, E3, Q4, P2,
10.	Food & Nutrition Laboratory, Malkens Research Station, Swaziland	L4, E2, Q4, P4
11.	Molecular Biology and Biotechnology Laboratory, University of Dar es Salaam, Tanzania	L2, E3, Q3, P2
12.	Cashew Biotechnology Laboratory Mikocheni agricultural Research Institute (MARI), Tanzania	L4, E4, Q4, P4
13.	National Biotechnology laboratory, National Institute for Scientific & Industrial Research (NISIR), Zambia	L2, E2, Q2, P2
14.	Plant Pathology & Microbiology Laboratory, Zambia Agriculture Research Institute (ZARI), Zambia	L3, E3, Q4, P3
15.	GMO Testing Facility, University of Free State (UFS), South Africa	L1, E1, Q1, P1
16.	Molecular & Cell Biology, Tobacco Research Board (TRB), Zimbabwe	L2, E2, Q1, P2

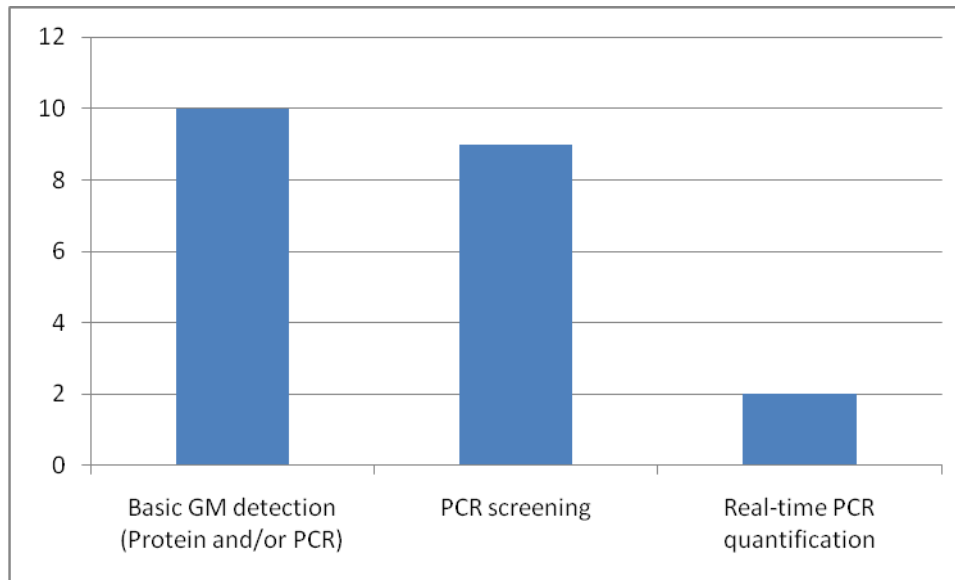
Summary of functional status of SANGL laboratories



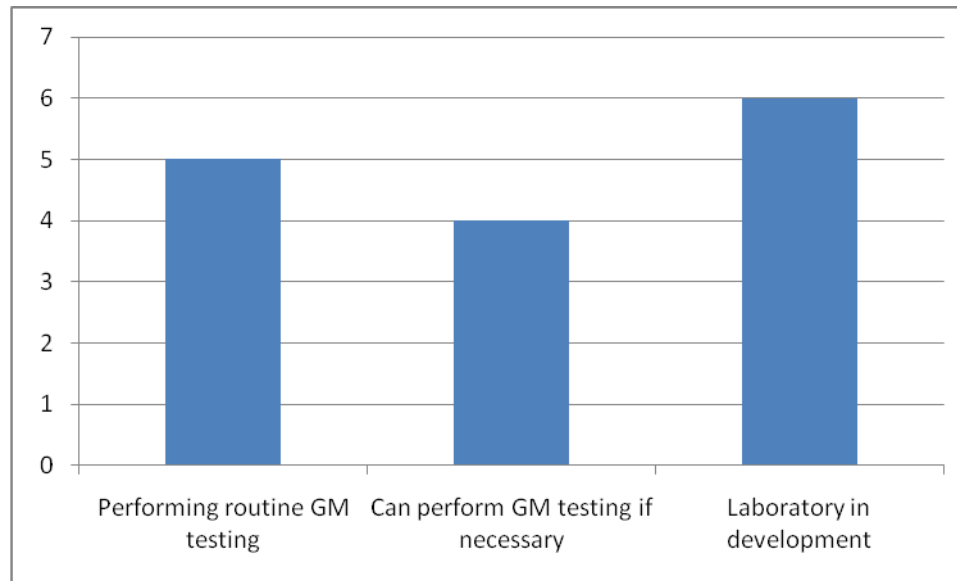
Summary of functional status of SANGL laboratories



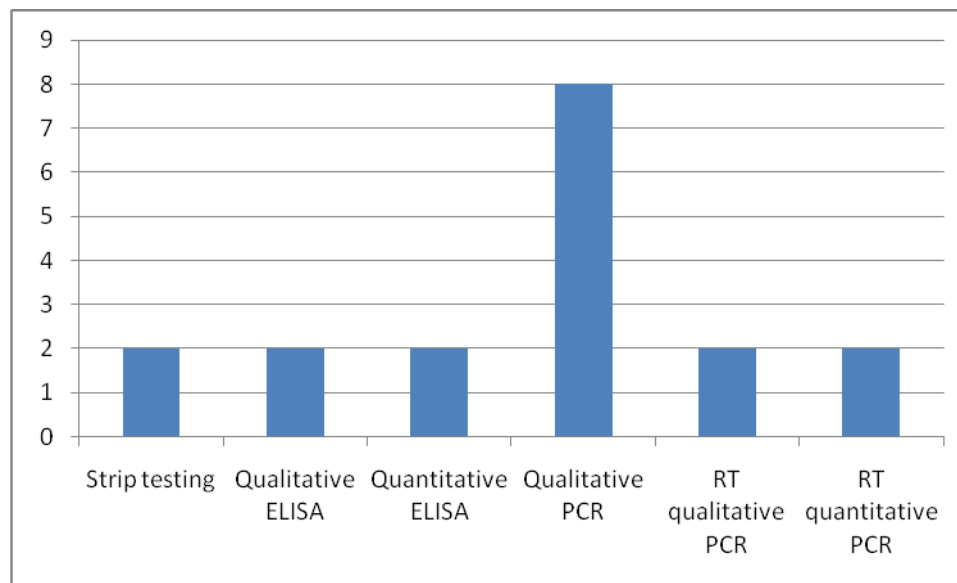
Summary of functional status of SANGL laboratories



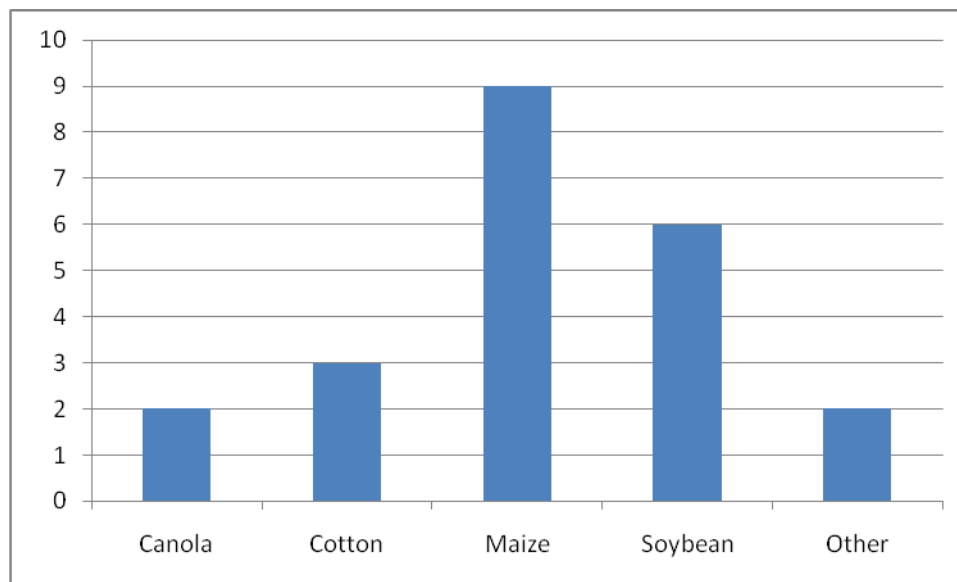
Summary of functional status of SANGL laboratories



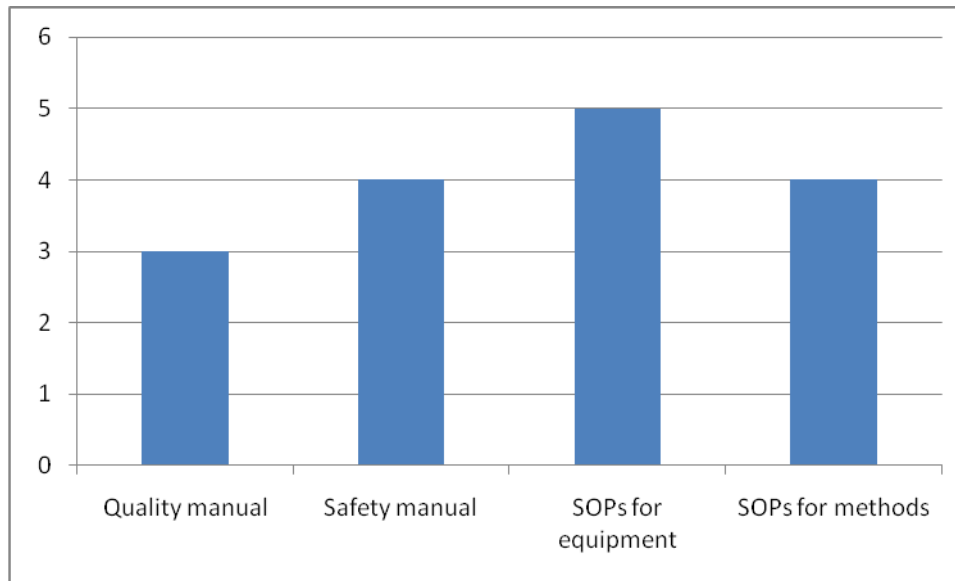
Summary of functional status of SANGL laboratories



Summary of functional status of SANGL laboratories



Summary of functional status of SANGL laboratories



Planned activities 2012

- **Proficiency round**
 - February 2012
 - 3 samples: Non-GM / MON810 / NK603
 - Challenge: Sample dispatch
- **Challenge: Acquiring reagents**

Conclusions

- **SANGL laboratories are at different levels of progress**
- **Challenge: To provide different levels of support**
- **There is a continued need to support the development of expertise in GM detection**
- **The first proficiency round will be used to benchmark SANGL laboratories for their future development**

Lessons learnt

- **Participation endorsed by NCAs**
 - Participation is by the laboratory experts
- **Properties of network**
 - Participation voluntary
 - Apolitical: Focus on technical issues NOT enforcement
 - Network members determine activities
- **Challenges**
 - Laboratories are not all at the same level
 - Funding to sustain the network

The way forward for Africa

- **"ANGL"**
 - "African Network of GM Detection Laboratories"
 - Consisting of representation from regional networks

Road map

- **Suggested road map**

- Request NCAs to endorse participation of labs in a African GM detection project
- Map the status of GM detection labs in Africa
- Hold regional workshops for labs to establish regional networks
- Provide a platform for the interaction of regional GM detection networks



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