



Meeting Production Requirements

A Third-Party Lab Perspective

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- I. Purpose & Scope
 - II. Testing Platforms/Technologies
 - III. Trait Provider Requirements
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Purpose & Scope



Purpose: Identify and communicate challenges of third-party testing laboratories offering quality assurance testing for seed producers

Scope: Genetic and Trait Quality Assurance testing for seed producers

Out of Scope:

Genetic selection

Trait introgression

Inbred production

Germ testing required for labeling

Breeding increases

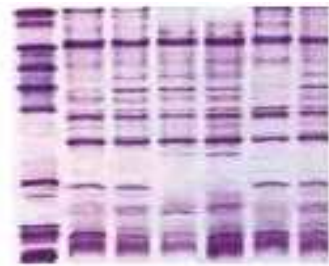
Feed and grain production



Testing Technologies

Challenge: There are a lot of technologies (with varying chemistries) for determining genetic and trait purity, with more in the works.

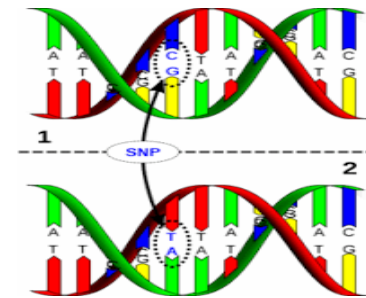
Genetic Purity



IEF

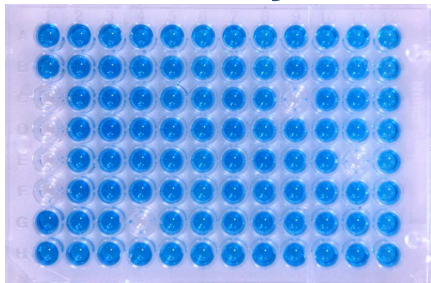


Isozyme Electrophoresis



PCR/SNPs

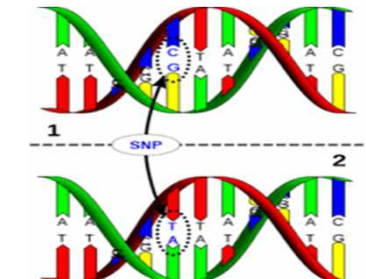
Trait Purity



ELISA



Herbicide Bioassay



PCR/SNPs

Testing Platforms

Challenge: There are a lot of platforms to select from for determining genetic and trait purity, with more in the works.



Challenges:

- Trait requirements vary from provider to provider.
- Access to the requirements are typically provided to licensees only, often to legal and not person responsible for Quality.
- Proficiency testing plans vary from provider to provider.



Challenge: Not all customers have the same testing needs.

- **Seed producers, contract growers, brokers, retail sellers have varying requests and demand for quality.**



Bare minimum



Gold Standard

- **All customers want testing to be accurate, rapid, and inexpensive.**

Trait Providers

- Proactively communicate expectations to labs
- Ensure individuals reviewing data at licensees have access to licensing agreements and understand them
- Allow for range of technologies and platforms and enable understanding of cost/benefit of each
- Build consistent requirements and PT programs

Labs

- Develop relationships with trait providers, chemistry, technology, and platform vendors
- Be persistent in continual improvement of processes

Q&A

