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HyTech Production Ltd.

Outline

- HyTech Production
 - Who We Are
 - What We Do
- What Is A Hybrid
- *AAC Brown 18* Hybrid Production
 - Challenges
 - Techniques

HyTech Production Ltd.

- Independent Seed Production Services
 - Since 1998
 - Operations in Canada, Chile & USA
 - Hybrid Crops
 - Hybrid Canola & Mustard
 - Hybrid Wheat, Hybrid Rye, Sugar Beets
- Family/Employee Owned





Hytech Production Ltd. – Lethbridge, AB

Head Office Location

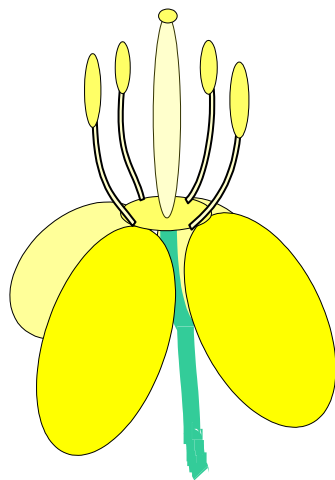
Seed Production Company

- Customers
 - Trait Developers, Breeders, Distributors
 - North America, Europe, Australia
- Main Activities
 - Production Research
 - Breeder Seed Production
 - Hybrid Production
 - Quality Assurance Testing
 - Treating & Packaging
- Full Service vs Project Based

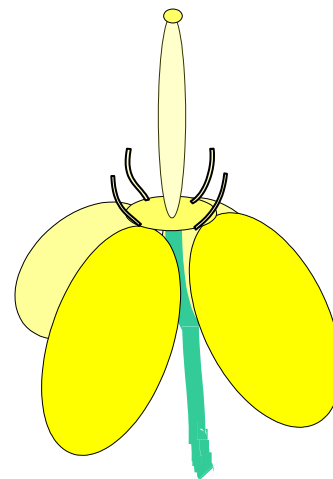
What Is A Hybrid ?



Hybrid = Male x Female



X



Pollinator (Rf)

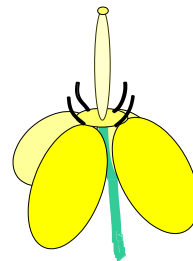
Female (A)

- Cross a fertile male parent with a sterile female parent to produce a hybrid with superior performance.

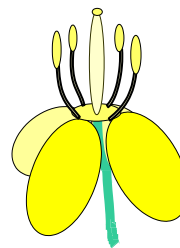


3 Parent Lines = *AAC Brown 18*

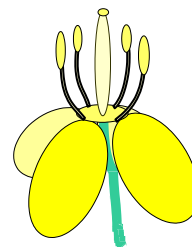
Female (A)



Maintainer (B)



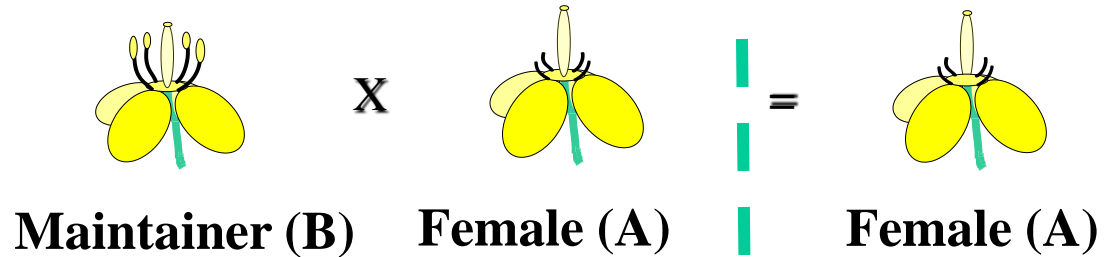
Pollinator (Rf)



AAFC Provides 100 grams of each Parent Line

Making A Hybrid = 3 Parent Lines

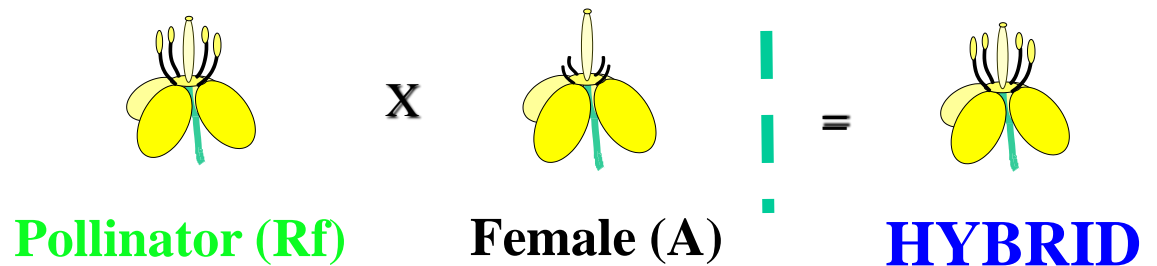
Female



Maintainer



Male



AAC Brown 18



HyTech Production

- Producing *AAC Brown 18*
 - Production Research
 - Chile & Canada
 - Breeder Seed Production
 - Chile & Canada
 - Hybrid Production
 - Isolation... GMO Free
 - Quality Assurance Testing
 - Treating & Packaging



Production Research



Parent Seed



Hybrid Production



Quality Assurance









Quality Management System

- **Utilizing SOP's To Eliminate Risk**
 - CFIA, CSGA & Internal Standards
 - AWSA – Accredited Seed Treatment Facility
 - Canadian Seed Institute
 - Registered Seed Establishment
 - Approved Conditioner & Bulk Storage Facility
 - Licensed Operators & Graders
 - Audited Breeder Seed Program
 - Accredited ISTA Samplers
 - CSGA Breeder Maintainer
 - CSGA Associate Plant Breeders
 - Certified Crop Advisor
 - Professional Agrologist

Hybrid Challenges

- **Multiplication Rate**
 - **1 : 1000, Good News / Bad News**
- **Hybrid System**
 - 2 Multiplications for an OP to get to 50,000 ac's
 - 6 Multiplications to get to 50,000 ac's
 - **Pollination**
 - Single greatest cost
 - **Parent Line Management**
 - Every parent line is different

Hybrid Challenges

- **Genetic Risk - Outcrossing**
 - Cross Pollination - Isolation
 - Volunteers - Rotation
 - Off Types
- **Physical Risk - Mixing**
 - Equipment – planters, swathers, combines, sampling, storage, transport, cleaning & treating
- **Other Risks**
 - Environment – rain, wind, heat, hail, frost, snow
 - Wildlife – cows, deer, elk, birds, gophers, rabbits,
 - Human Error – spraying...



AAC Brown 18



QUESTIONS?

