Get More Out of Your Seed Tests

Presented By: Sarah Foster President 20/20 Seed Labs Inc.

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Meet Sarah Foster, President 20/20 Seed Labs Inc.

Sarah Foster has been involved in the seed industry since the late 1970's. She studied and qualified as an accredited seed analyst at the National Institute of Agricultural Botany in Cambridge, England.

Her work experience includes seven years with Sharps Seed International (Advanta) in the United Kingdom and five years with The United Grain Growers Edmonton after immigrating to Canada.

In 1989, Sarah started 20/20 Seed Labs Inc., the first fully independent accredited seed testing laboratory in Canada. 20/20 Seed Labs Inc. has grown over the years to provide testing services for domestic and international business. Our labs are located in Nisku, Winnipeg and Chile.

Sarah has held various executive positions with the Commercial Seed Analysts Association of Canada, including National President. Sarah is also involved with various committees currently working on the Canadian Methods and Procedures with the (CFIA) Canadian Food Inspection Agency, and an advisor for the Alberta Seed growers Association and a contributor to the Seeds Canada Regulatory seeds modernization group.

About 20/20 Seed Labs Inc.

The agriculture industry's trusted resource for seed success.

We understand that successful farming starts with healthy, high-quality seed.

We go beyond testing to provide educational resources, thought leadership, and strategic insights to empower growers to reach their goals.

From seed health to genetic integrity, our testing services are designed to ensure that every seed planted has the potential to grow into something exceptional.

As an essential partner to the industry, we're dedicated to enhancing success through innovative solutions, continuous support and a commitment to excellence.

Whether growers are looking for ways to optimize seed quality, improve disease resistance or accelerate their time to market, our testing solutions provide the clarity and confidence they need to grow sustainably and efficiently.

Agenda

- Why Test?
- Essential Background Information
- Results are MORE than JUST a number
- Using Germination & Viability for a Healthy Crop
- Vigour, a Measurement of Seed Performance
- Vigour Tests
- Seed Health
- 1000 Kernel Weight
- Get to Know ROSA
- Closing Remarks & Questions

Why Test

High seed quality is essential for crop production to be both sustainable and profitable.

Because of this,
it is widely accepted as a critically important agronomic trait.

1. Seed quality is an essential trait for crop production, food security, increasing uncertainty about climate change.

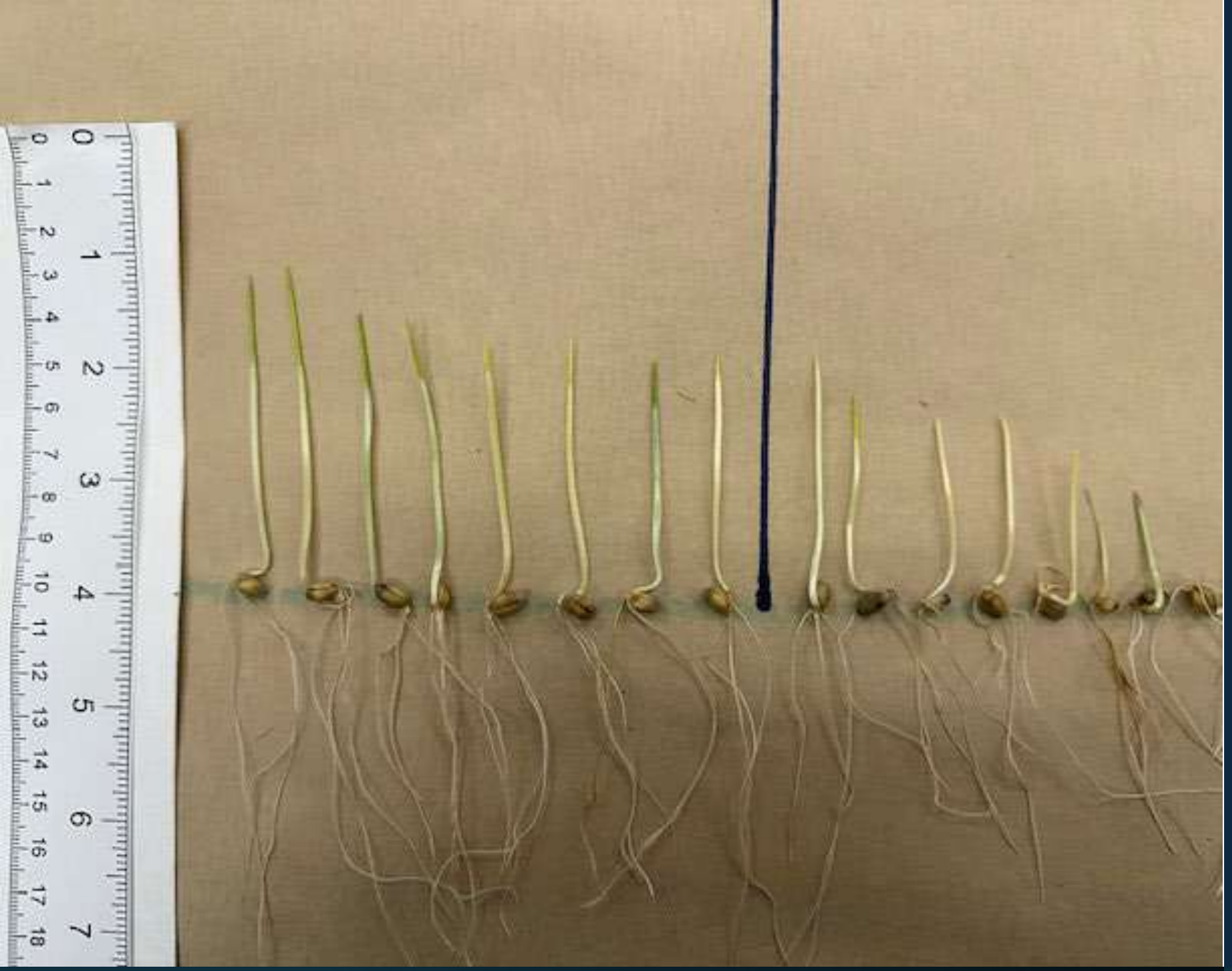
2. Seed quality directly impacts yield, production efficiency and crop profitability.

3. Seed quality is supported by CFIA accreditation: germination, purity and smut.

4. Seed quality is supported by Informational tests: Vigour, seed health and 1000kwt.

Essential Background Information

- Client Information
- Sampling
- Mixing
- Pure Seed
- Temp / Towels
- Accredited analyst in germination
- Accredited laboratory



Results are MORE than JUST a NUMBER

85%

Using Germination & Viability for a Healthy Crop.

Dead Seed

Dead with Disease

Recommend pre and post harvest seed testing.

Frost

Chemical Damage

Mechanical Damage

Dormancy

Vigour, a Measurement of Seed Performance

- A percentage of viable seed under stress of less optimal conditions.
- An important quality parameter that supplements germination and viability.
- Provides us with insight into the performance of a seed.
- Shows us the potential the seed has for real field planting.
- Gives insight into both environmental and genetics.

Vigour Tests

IMPORTANT TO CHOOSE A TEST THAT WORKS FOR YOUR REGION.

ULTRA EARLY SEEDING 2OC

COLD TEST 5OC

EC/CD/AA

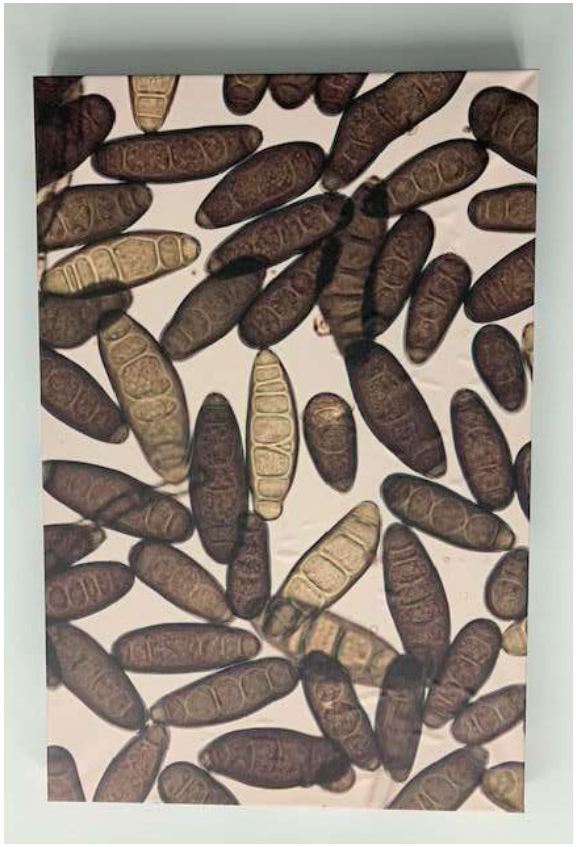
COMBINATION OF MULTIPLE TESTS REVEAL THE COMPLEX TRAIT OF SEED VIGOUR.

Seed Health

- A fungal seed screen: Essential for evaluating seed quality.
- A diagnostic procedure used to assess the presence of fungal pathogens or fungi-associated pathogens or fungi-associated issues in seeds.
- Fungal cells are isolated & identified with a microscope to genus or species.
- Complete agronomy package includes a seed health test.
- Seeds are free from harmful fungi that affect germination, seeding vigor, and crop performance.
- The Fungal Screen tests for 10 different pathogens on seed from cereal crops. This includes pathogenic and saprophytic fungi and storage moulds.

Fungal Diseases

A typical example of Fusarium graminearum



A typical example of Cochliobulus sativus

1000 Kernel Weight

A measure of seed size.

- It is the weight in grams of 1000 seeds.
- Seed size, and the 1000 kwt varies from one crop to another, between varieties of the same crop and even from year to year or from field to field of the same variety.
- 1000 kwt is used for calculating seeding rates and harvest losses.
- Consider using the vigour test result in the seeding calculation.

https://cap.alberta.ca/app19/loadSeedRateCalc

Get to know ROSA

R- eport
O- f
S- eed
A- nalysis

- An analytical report that helps businesses make informed decisions.
- In-depth information can be found in the REMARKS.
- There is value in knowing these reports, which will enable you to provide your team with the data they need to be successful.
- If you're a business professional this will increase productivity, with data management.
- Data available year over year collection.
- Seedtrakr and other platforms can tie into seed lab management systems.

Example: ROSA Report

20/20 Seed Labs Inc.

Report of Seed Analysis

CFIA Accreditation No. 1068

Date: 23 Jan 2025

Lab No. AB1250101593

Sample Description: Wheat

CC# 24-1234567-401, Lot# 123-4-123456

was received from

Scarecrow Enterprises
507 11 Avenue
Nisku AB T9E 7N5
Canada
Officially Recognized Sampler: John Smith

tested at

20/20 Seed Labs Inc.
507 - 11 Avenue
Nisku AB T9E 7N5
Canada
p 780-955-3435 f 1-888-900-1810
e support@2020seedlabs.ca

signed by:

Professional Member

Analyst #007
Carey Matthiessen

This sample was analyzed according to Canadian Methods and Procedures (CFIA)* for the following:

GERMINATION *			
Germination (%)	85	Germ. Incl. Hard Seeds (%)	-
Abnormals (%)	7	Fresh (%)	0
Deads (%)	8	Hard Seeds (%)	-
CEREAL COLD STRESS			
Total Vigour (%)		80	
FUSARIUM (PLATE METHOD)			
Fusarium graminearum (%)		0.5	
1000 KERNEL WEIGHT (SEED COUNTER)			
1000 Kernel Weight (grams)		34.28	

REMARKS

Total extended pre-chill days that were used to break dormancy: 3

Remark: Germination test: Symptoms observed in germination test are consistent with mechanical damage.

signed by:

Carey Matthiessen is the Director of Operations and has been seed testing since 2006. Carey grew up in the agricultural community and has dedicated her career to plant physiology and seed morphology. Carey also holds various accreditations in Canada and abroad.

The responsibility for any seed sold under this Report with respect to Grade or any other specification rests entirely with the seller.

Closing Remarks & Questions

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