



# SEED SCIENCE ADVISORY GROUP

Presenter: Birte Bolt  
Location: Verona  
Date: 2023

# The Group members

Member	Location
Brigitte Hamman (Chair)	South Africa
Alison Powell (Vice-chair)	UK
Birte Boelt	Denmark
Francoise Corbineau	France
Malavika Dadlani	India
Joel Lechappe	France
Stan Mathews	UK
Manuela Nagel	Germany
Alan Taylor	USA
Jane Thomas	UK
Adel Zayed	USA

# MAIN ACTIVITIES

## Predicting normal germination (NG) from early RE:

- Data received from 3 labs involved
- Good relationships between RE and NG for
  - *Sorghumbicolor*
  - *Capsicum annum*
  - *Triticum aestivum* subsp. *aestivum*
- Many papers now published to support hypothesis that RE can predict NG, therefore nor further work to be initiated by the SSAG.

# MAIN ACTIVITIES

## Equipment evaluated:

### VIM technology (Centor Group):

Uses same principles as those for Q2 seed analyser (previously evaluated by the SSAG)

**Claim:** can predict germination and vigour

**Found:** No *new* evidence provided in marketing material in support of claim.

# MAIN ACTIVITIES

## Equipment evaluated:

### Respiration Analyser (SRA) (Fytagoras):

Establishes the level of homogeneity within seed lots in terms of germination rate, permitting subsequent comparison of the effects of different seed treatments (eg., priming).

There are no claims with regard to prediction of germination or vigour, although comparison of the SRA data with field emergence of seed lots might reveal a relationship to vigour.

# MAIN ACTIVITIES

## Equipment evaluated:

### SeedAlive:

Uses seed leakage plus a colorimetric analysis

**Claim:** to predict seed germination and vigour.

A number of questions were raised about this approach.

SeedAlive developers contacted the SSAG following the Annual Meeting, provided further evidence in support of their approach.

Also stated they were interested in validation of their method. The members of the SSAG evaluated this additional evidence and provided a detailed response to SeedAlive. No feedback to date.

# MAIN ACTIVITIES

## Equipment evaluated:

### Reminders

A validation for a new germination method, addition of a new vigour test, or application of a new species to a validated vigour test has always been on a species-by-species basis, not a genus basis. Thus validation of the method **is only for one species; other species** would need **additional validation**.

**Validation of a vigour test** or application of a new species to a validated vigour test always requires the results of a laboratory evaluation to have been shown to **relate to a practical expression of vigour** e.g. rate and / or final field or glasshouse emergence, or storage potential.

# MAIN ACTIVITIES

## Equipment evaluated:

### Report: Concluding remarks

- **Additional background research would help clarify how useful the approach would be.**
- **The importance of using commercial seed lots, with information of their production history.**
- **That comparison with the results from validated germination tests is essential.**
- **That for a vigour test, data must be related to a practical expression of vigour (field / glasshouse emergence or storage potential)**
- **It is not clear how SeedAlive would use any successful validation. In many cases, validation of a method (e.g. a new vigour method) is followed by introduction of the method into the ISTA Rules for Seed Testing. If this is the case, the test becomes part of the ISTA system of Proficiency Tests and may be included on Orange or Blue International Certificates.**



**The SSAG group loves to work collaboratively with ISTA TCOMs and members!**

**Please feel encouraged to contact the group if you:**

- **Need advice on seed science issues**
- **Come across a research observation you think might merit further observation**
- **Would like a new development of new piece of equipment marketed for seed testing, evaluated in terms of fit-for-purpose**



Thank you!



Follow us on social media: