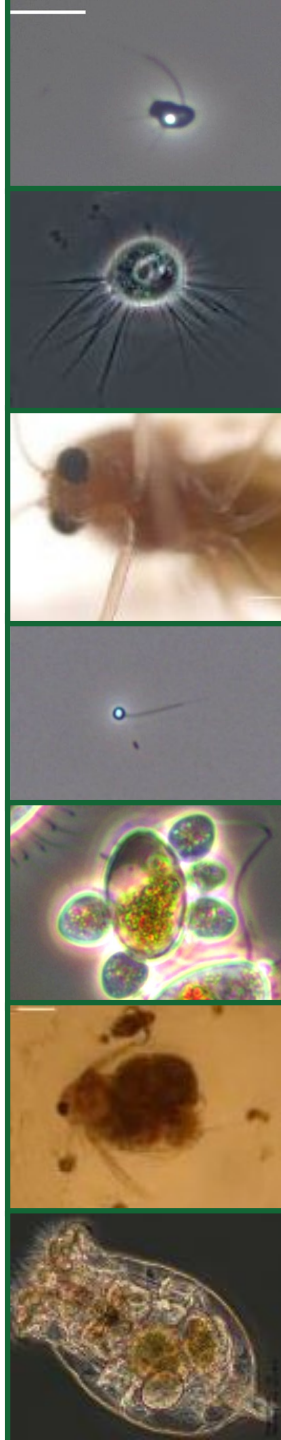
Barriers to Scale: Algae Crop Protection Workshop

Session 4: Current and Future Pest Monitoring Practices

Moderator: Daniel Fishman

Rapporteur: Scott Edmundson



Post panel discussion highlights



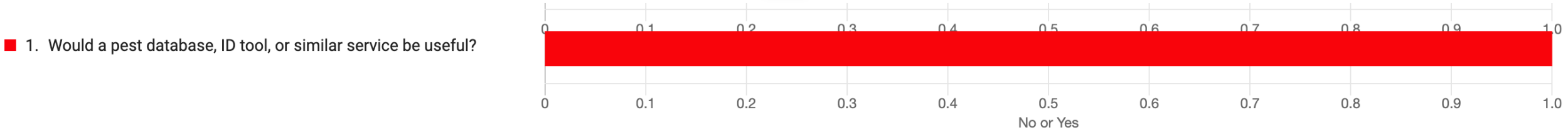
- Current and Future Pest Monitoring
  - **Jeri-Sandia NL**
    - Spectroradiometric methods
    - Functional Detection vs. Presence
      - Most important to detect if it is causing harm?
  - **Natalie -QBI**
    - Water Quality Monitoring
      - Customizable, real-time microbial microfluidic devices
      - Sensitive detection of metals and nutrients
      - Possible applications to signal molecules if known model systems to train
  - **Ryan – UCSD**
    - Chemical detection of molecules in the air via chemical ionization mass spectrometry
    - Can detect both ”healthy” and infection signal molecules

Group Discussion Highlights

▶Unanimous Agreement

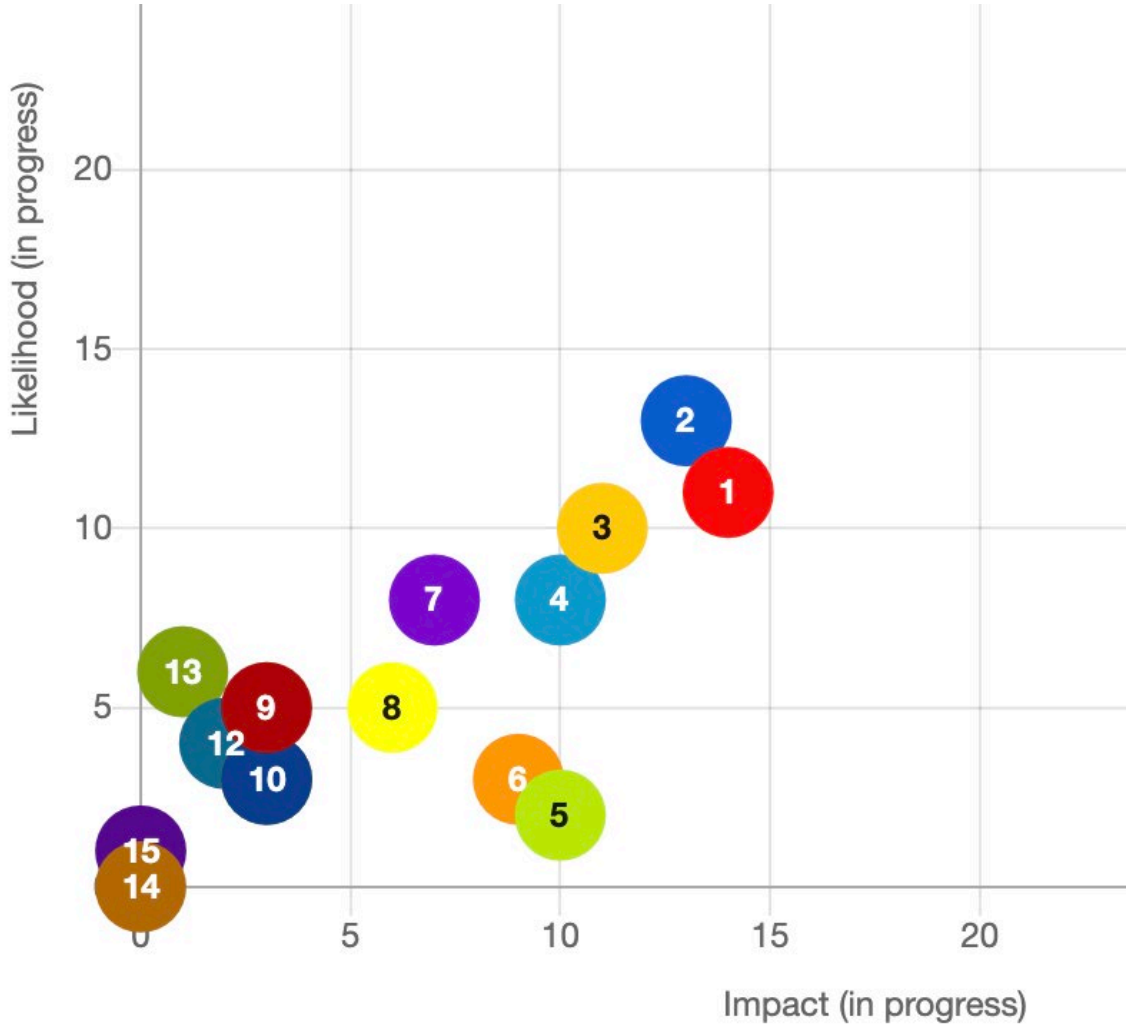
Would a pest database, ID tool, or similar service be useful?

35 persons have rated. Abstention allowed. 0 = No, 1 = Yes



Group Discussion Highlights

- **Question 1: Pest Monitoring Methods and Tool Attributes**



1. Field deployable / robust
   Needs to be robust in the outdo
2. Cost
   Needs to be affordable - maybe
3. Sensitivity:
   How long before a crash can a
4. Scalable.
   Can be used in both the lab and
5. Should be able to monitor a div
6. Actionable
   Creates data that can lead to ar
7. Incorporates multiple data sour
   INcludes things like weather or
8. Autonomous monitoring and th
9. Functionally deterministic
   Molecular methods can likely d
10. Should continuous/automatic
    disease or B) health of the cul
11. Specificity
    Needs to determine specific re

Group Discussion Highlights

- Question 2: Pest Identification Tools and Service Functions

What are the top priority functions of ar pest ID tool or service?

Select your top three priorities from functions identified in question 2.2

30 persons have rated. Maximum 3 selections.