Weed and Feed Bootcamp: Case Study Training for Retail Agronomists

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OBJECTIVE

- To aid ag retail employers in improving problem-solving skills of young staff and updating veteran staff in current weed management and soil fertility issues in Manitoba.
- Offered workshops at 9 retail sites to some 110 participants (attendance range 7-21)
- To solve 6 case study mysteries slotted for ½ hour each
- Using a proven but currently underutilized training technique

FORMAT

1. Assign case study for groups of 2-3 people to complete (Fig 1)
2. Take up group recommendations and discuss
3. Introduce, demonstrate decision aids
4. Present relevant research data and summarize (Fig 2)
5. Participant evaluations for feedback on information learned, useful tools and the workshop format

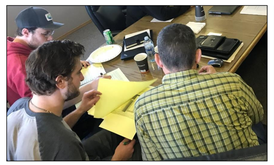


Fig 1. Group work on cases

Fig 2. PowerPoint summary

SUMMARY

- Highly appreciated by agronomists
- Many suggested new case study scenarios
- Provided 3 CCA CEUs
- Investigating opportunities to continue delivery within COVID guidelines:
  - Virtual, but live
  - In person to small groups

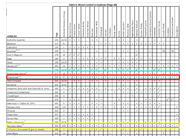
Case 1: Weed scouting

1. ID the weed, crop
2. Consider competitiveness of crop: soybeans, 30" rows, 140,000 plants/ac

Control options?

Points learned:
1. Features to ID different grasses
2. Attention to detail – stage, morphology, more than colour
3. Seek all info from farmer regarding history, herbicide app

Aids:
1. Weed seedling ID guides, herbicide selection tables



Case 2. Herbicide performance

1. Weed stage when scouted and spray recommendation made
2. Weed "escapes" observed a couple weeks later

What went wrong?

Points learned:
1. Consider all escape factors – stage of growth, herbicide rate, water volumes, coverage, weather
2. Know crop and weed growth stages and rate of development

Aids:
1. PMRA online label search

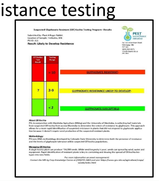
Case 3: Herbicide resistance in weeds

1. The post-spray scouting shows mix of dead, injured and healthy plants
2. How do you explain "escapes"?

Future management options?

Points learned:
1. Proper ID is critical
2. How to confirm resistance
3. More PRE herbicide use
4. Control steps beyond chemical – crop competition, surveillance,

Aids:
1. PCR resistance testing



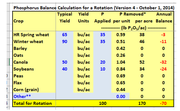
Case 4: Managing soil phosphorus (P)

1. Declining soil test P levels
2. High P removal crops
3. Limited seed placed P safety

Develop a P rebuilding plan.

Points learned:
1. Consider long-term building approach through the rotation
2. Important conversation with grower on long-term objectives, rented vs owned land, equipment options, etc.

Aids:
1. IPNI Crop Removal rates
2. MB Ag P balance calculator

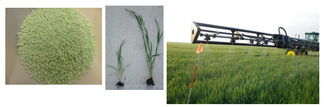


Case 5: Increasing wheat protein

1. Good wheat yields but low protein
2. Risk lodging with high nitrogen (N)

Use 4R approach to increase protein

Points learned:
1. N sufficiency for yield thumbrule, >13.5% protein
2. RATE = N supply of 2.0 -2.3 lb N/bu
3. SOURCE = controlled release N (ESN), but inconsistent results
4. TIMING = split N application, but risk if no rain, post anthesis N but leaf burn and inconsistent results



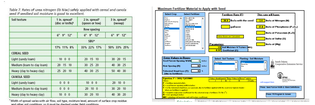
Case 6: Seedplaced fertilizer injury

1. Narrow disk seed opener and reduced crop stands
2. Seed and seedling toxicity from excessive seed placed fertilizer (N)

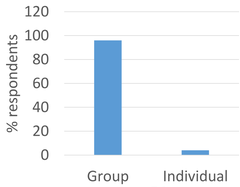
Use 4R approach to plan

Points learned:
1. Risks of narrow openers, wide row spacings
2. Greater toxicity with higher pH soils, sandy texture, dryness
3. Place higher rates elsewhere, consider safer fertilizer sources

Aids:
1. Safe rate guidelines
2. SDSU/IPNI FertSeedDecisionAid

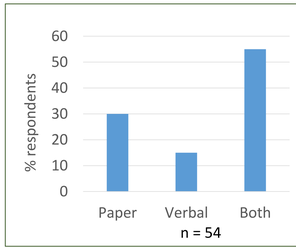


WORKSHOP FORMAT



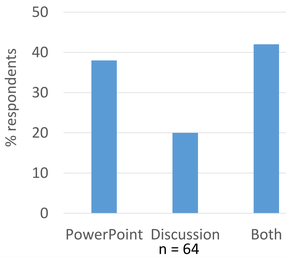
Group or Individual work?

- Liked hearing different group perspectives
- Good sharing
- Encouraged teamwork
- Mix of skills/experience
- Good for newer staff



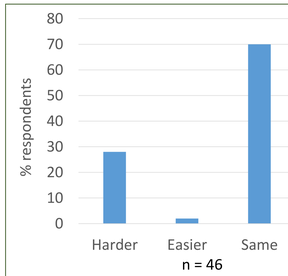
Case Study materials

- Suggest bringing in a "stubborn farmer" to try to convince



Discussion format

- Discussion alone is not enough
- Like supporting data, evidence brought with PowerPoint



Level of Difficulty

- Start with easy and increase level of difficulty
- Good spread for the range of skills
- Very realistic cases