Farmers’ Utilization of Auto-guidance Technology and Training Needs

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Introduction

- Global Positioning Systems and Equipment Guidance Technology assist in managing operator variability and improve field management decisions.
Purpose

The study was conducted to examine the variables associated with adoption of auto-guidance technologies and determine training preferences.
Methods

- Training Program Conducted with USU Extension
  - 25 minute presentation
    - Overview of GPS technology, system types and uses
    - Demonstration and application session
    - Post-seminar Survey (16 questions)
      - Test—Retest Reliability
        - (intra-class correlation coefficient of .91)

- Data analysis
  - IBM SPSS 20
    - Frequencies percentages, means and standard deviations were reported
    - Chi-square test of independence for association of selected variables
Results/Findings

Top Five Auto-guidance Systems Used by Respondents ($n = 31$)

- Trimble EZ-Steer: $f = 8$
- AFS Accuguide: $f = 6$
- Trimble Autopilot: $f = 5$
- ONTRAC3: $f = 5$
- Trimble EZ-Pilot: $f = 4$
Results/Findings

Equipment Used with Auto-guidance (n = 31)

- Tractor: 22
- Sprayer: 20
- Self-propelled Windrower: 8
- Combine: 5
- Forage harvester: 1
Results/Findings

- Ranked sessions of training seminar
  1. Hands-on “Tinker” Session
  2. Demonstration Session
  3. Lecture/Slides/Pictures
Results/Findings

- Respondents’ agreed to strongly agreed future training was needed for using auto-guidance with
  1. Tractors ($f = 49$)
  2. Self-propelled windrowers ($f = 41$)
  3. Forage harvesters ($f = 37$)
Conclusions

- Farm size was significantly associated with use of auto-guidance. \( \chi^2 (1) = 4.726, p = .030, \phi = .307 \)
- Focus future training on auto-guidance systems used with tractors.
- Increase development of Hands-on “Tinkering” (experiential learning) with auto-guidance systems
Recommendations

- Consider learning preferences
- Utilize innovative collaborations with industry partners to host "hands-on" training programs
Future Considerations

- Increase sample size
- Investigate alternative training options
- Determine reduction in operator errors when using auto-guidance.
Questions?

Thank You