

Precision Agriculture Technology & REACCH

Characterizing precision agriculture technologies and barriers in the Inland Pacific Northwest

The Issue

How “site-specific” can farming be? How precisely can a farmer vary inputs? How does a farmer decide when the risk is worth it for new and advancing technologies? These are questions farmers in the Pacific Northwest face amidst climate variability and change.

Background

In 2012, the *Regional Approaches to Climate Change for Pacific Northwest Agriculture (REACCH)* project conducted a survey of agricultural producers of cereal crops in the inland Pacific Northwest region. The survey, administered by the University of Idaho’s Social Science Research Unit, yielded a response rate of 46% from 900 wheat producers in the inland Pacific Northwest. The survey asked about

production practices, uses of technology, management of risks, pest pressures, and demographics.

Precision Agriculture Technology Use

Here we provide a summary of producers’ use of technology and barriers to using precision agriculture technology in their operations. As seen in Figure 1, the most common technology that producers in this region have and use is GPS guidance (65.2%), followed by variable fertilizer applicators (39.4%), and yield monitors (34.3%). Among the precision agriculture technologies measured, farmers do not have aerial soil mapping, variable seeding equipment and spatial soil mapping at rates varying between 70 – 80%.

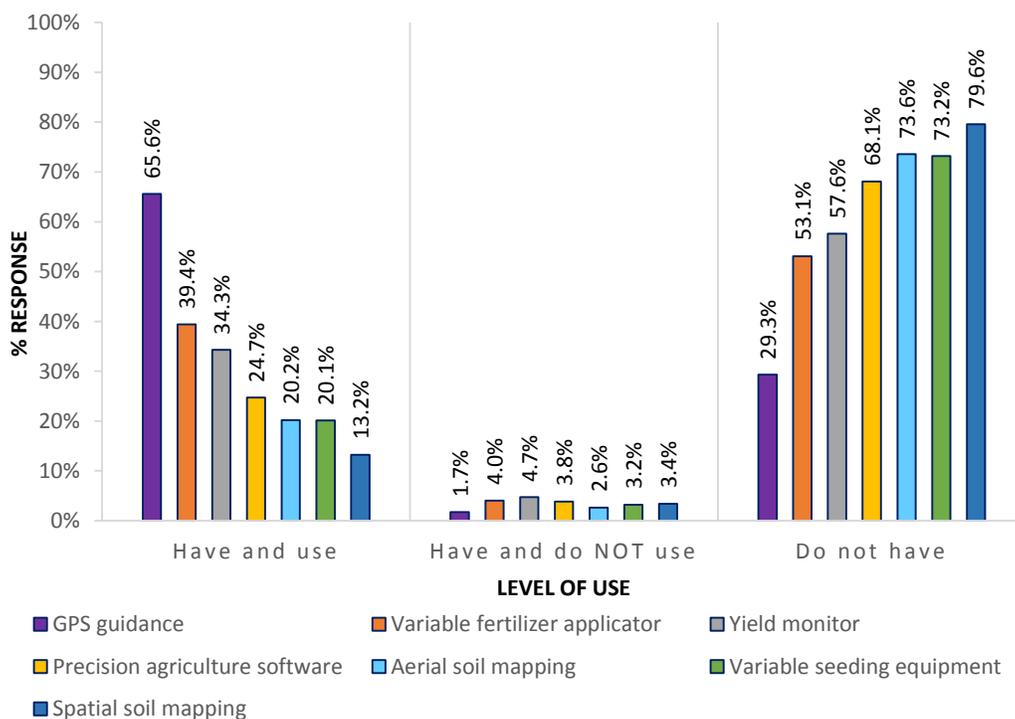


Figure 1. Level of use for precision agriculture technologies in the IPNW

Precision Agriculture Technology & REACCH (cont.)

Barriers to Current Use of Precision Agriculture Technology

In the survey, we included a question about barriers to using precision agriculture technologies. Only those respondents who said they *do not have* precision agriculture technology (n=187) completed the item about barriers (Figure 2). In the figure, percentages do not add up to 100 because

noted the technologies were “not worth the investment of new capital” and that they were “difficult to learn to operate and maintain.” These results reflect the cost- and operationally-related challenges some producers face about keeping the most currently available technology in use.

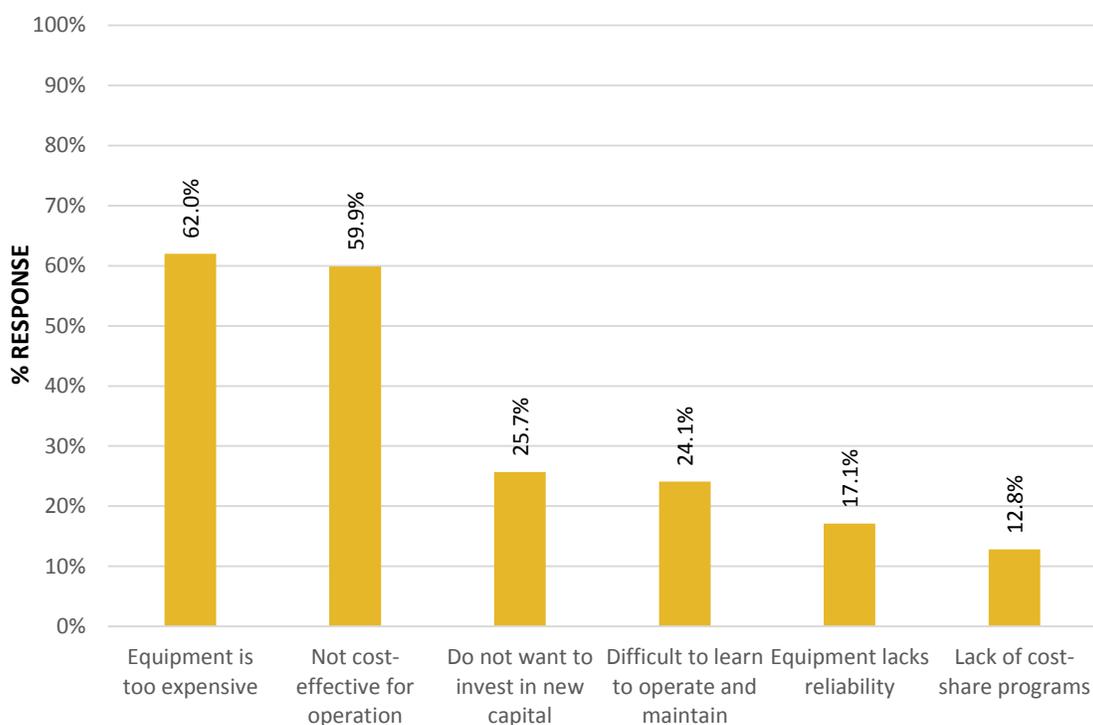


Figure 2. Reasons for not currently using precision agriculture technology

each respondent could select more than one reason why they do not use precision agriculture technology. Two clear and distinct expense-related categories – “equipment is too expensive” (62.%) and “not cost-effective for my operation” (59.9%) were cited most frequently as the barriers to using the same types of precision agriculture technologies displayed in Figure 1. About one-quarter of respondents also

July, 2015

Contributors

The following members of the REACCH project team contributed to this report: S. Gantla, J. Gray, L. McNamee, L. Bernacchi, K. Borrelli, B. Mahler, M. Reyna, B. Foltz, S. Kane, and J.D. Wulfhorst.

Questions? Contact ssru@uidaho.edu