Drones in Agriculture: Adopting New Technology

O. I. Garza, M. E. Murry, G. A. Polasek, and R. D. Rhoades

Texas A&M University- Kingsville

The adoption of new technology resulting in more precise data collection to improve efficiency and profitability will be important in determining future success in agriculture. Drone technology has the potential to revolutionize the industry. The primary objective of this study was to determine rancher perceptions of utilizing drone technology on their operations. Results were derived from 225 survey responses collected at the 2014 TAMU Beef Cattle Short Course. Respondents were mostly: over 45 years of age (56%), have greater than 10 years' experience (53%), have less than 100 animal units (67%), wait for proof of technology before adopting (48%), and describe their ranch as a cow-calf commercial enterprise (67%). This study found that 47% of respondents are willing to pay less than $10,000 for drone technology. But less than 30% of respondents are likely to replace their current method of monitoring and assessing ranch resources with a drone. A majority of respondents agreed that restricting legislation (71%), technology costs (63%), and potential liability or privacy concerns (60%) were the primary barriers to drone technology adoption. However, if drone adoption does take place, the possibility that the technology enables them to improve their inventory and grazing management and make more effective decisions about land use were rated important by more than 80% of respondents. These results suggest that ranchers are interested in the capabilities of drone technology but have some significant legal and cost concerns before adoption will take place.