

## Using Clickers for Data Collection for Enterprise Budgets

### Abstract

Audience response receivers, or clickers, provide a convenient and efficient way to collect data for developing enterprise budgets. The use of clickers allows the Extension specialist to ask growers for individual farm data while guaranteeing confidentiality and anonymity. In addition, setting up a session for collecting the data from a panel of producers is less costly and time consuming than conducting one-on-one interviews. But perhaps the greatest advantage of this methodology is that it allows for keeping up with the rapid pace of change in growers' practices.

### Ariel Singerman

Assistant Professor  
Food and Resource  
Economics  
Department  
University of Florida  
Institute of Food and  
Agricultural Sciences  
Gainesville, Florida  
[singerman@ufl.edu](mailto:singerman@ufl.edu)

## Introduction

Enterprise budgets are a key element of farm planning. They provide estimates of expenses, potential revenue, and profit—all of which are useful for decision making. Extension economists often develop enterprise budgets for a variety of crop or livestock operations. In such cases, the budgets do not represent a particular farm but rather an average or typical operation.

Constructing an Extension enterprise budget requires gathering a significant amount of data, and various sources can be used for that purpose (Christensen, Howell, & Miller, 1993). One possible source of data is farm records. In such case, the resulting budget is an average of the individual farms' data. A second and similar approach involves surveying farmers, but if such surveys are conducted by mail, they typically result in low response rates. Individual interviews may boost the response rate, but they are costlier and time consuming. A third approach involves using results from research farm trials or Extension specialists' recommendations for best practices.

## The Case of Citrus Enterprise Budgets in Florida

A University of Florida Extension economist has been documenting the cost of production of citrus in Florida every year since the early 1970s. Until recently, the methodology for constructing those budgets involved a combination of the second and third approaches described above. That is, the information collected from growers and Extension specialists on the use of chemicals and their rates of application was combined with retail data on chemical prices to estimate their cost.

A caveat of using retail prices to estimate the cost of inputs is that growers typically get significant discounts for bulk purchases. Thus, a budget based on retail prices can overestimate cost. Despite this drawback, the strategy had worked well for documenting the cost of production of citrus in Florida for several years. However, since the outbreak of citrus greening—a bacterial disease considered to be the most devastating in citrus and for which there is no cure to date—growers have been modifying their practices from year to year in an attempt to cope with the disease. In this context, the methodology that had been used for developing citrus budgets became outmoded.

Faced with the challenge of putting together a yearly, up-to-date, and relevant budget under current growing conditions, we have started using clickers at the University of Florida to collect data directly from a panel of growers. By doing so, we have been able to circumvent the problem posed by the annual change in practices as well as the potential overestimation resulting from the use of retail prices for inputs. The new budgets can be described as being representative of the most recent production practices, input combinations, costs, and production levels.

## Procedure

We schedule a data collection session with growers at a county Extension or grower association office. Extension agents are in charge of publicizing the session and recruiting participating growers. The day of the session, growers bring a completed survey form that was distributed to them beforehand. On the form, they indicate annual per-acre costs by program (e.g., weed management, insecticides, fertilizer).

During the session, each grower uses a clicker to enter his or her costs. After the participants have entered their responses, the average and standard deviation of their responses appear on the screen for everyone to see. This aspect of using clickers provides an important advantage over a mail survey. Showing the statistics can provide a quick way of checking the quality of the data, not only by the surveyor but also by participating growers. Thus, the session allows for a useful discussion to clarify any potential misunderstanding regarding the question asked, with the possibility of repolling the question if needed.

There are additional advantages to our methodology for developing enterprise budgets. First, all data are entered by the growers during the session and are then ready to be downloaded to Microsoft Excel for analysis. Second, using clickers provides confidentiality and anonymity to participants. As noted by Gustafson and Crane (2005), preserving confidentiality and anonymity makes participants more comfortable and willing to share sensitive information about their operations. Third, by surveying growers regarding the actual costs of their production programs, we are able to report estimates that closely reflect the cost of production in commercial operations.

## Conclusion

We have found that using clickers for collecting data for developing an enterprise budget presents several advantages. In addition, the involvement of growers and the transparency of the methodology contribute to the validity of the estimates. Setting up a session for using clickers to collect the data is also efficient because it requires less time and effort as compared to conducting personal interviews. The resulting budget is useful not only for producers, property appraisers, and other industry stakeholders but also for researchers to use as a valid benchmark against which to analyze the economic feasibility of new practices or technologies to be adopted on a commercial scale.

## References

Christensen, R. L., Howell, J., & Miller, A. (1993). Expert panels in participatory education. *Journal of Extension*, 31(4), Article 4FEA5. Available at: <https://www.joe.org/joe/1993winter/a5.php>

Gustafson, C., & Crane, L. (2005). Polling your audience with wireless technology. *Journal of Extension*, 43(6), Article 6TOT3. Available at: <https://www.joe.org/joe/2005december/tt3.php>

---

Copyright © by *Extension Journal, Inc.* ISSN 1077-5315. Articles appearing in the Journal become the property of the Journal. Single copies of articles may be reproduced in electronic or print form for use in educational or training activities. Inclusion of articles in other publications, electronic sources, or systematic large-scale distribution may be done only with prior electronic or written permission of the Journal Editorial Office, [joe-ed@joe.org](mailto:joe-ed@joe.org).

If you have difficulties viewing or printing this page, please contact [JOE Technical Support](#)