

## APPENDIX G

### POINT-BY-POINT RESPONSES TO QUESTIONS RAISED BY NASS REVIEWER ON SEPTEMBER 9, 2009

The following questions/comments were made regarding Part B of the supporting statement for the Florida Agricultural Worker Survey (FAWS):

1. Universe and Sample - I recommend that you further define the nature of the frame used for the universe of employers. I am particularly concerned about the age of the Quarterly Census of Employment and Wages data. A significant portion of farms go out of business every year. This is due to the poor economy and the retirement age of many farmers. Some of the land is purchased by other producers, and some of the land is repurposed for non-agricultural purposes.

Other issues for consideration are:

Does this data include what crops are planted in the current season?

How long does it take for a new farm to get placed on this frame?

How long does it take for a change in ownership to appear on this frame?

These issues could contribute to a decline in the universe for which the employees are sampled, since the first stage of sampling does not allow for replacement.

**Response to Question 1:** Additional discussion has been added regarding the sampling frame on pp. 1-2 of the document. The discussion draws heavily from the Bureau of Labor Statistics *Handbook of Methods* which is the supporting document for the Quarterly Census of Employment and Wages (QCEW) data. The points raised are all pertinent concerns, and unfortunately, can be raised with nearly any sampling list other than an area frame. Please see pp. 1-2 of the revised document for a more complete discussion, but the following are the primary arguments supporting the use of the QCEW data for the sampling frame:

- A comparison of the annual average number of workers in crop and animal agriculture from the Florida QCEW data for 2008 *exceeds* the estimated number reported in the USDA *Farm Labor* for the same time period. The latter is based on sampling from a USDA list of agricultural employers supplemented with an area frame sample.
- Commodities are identified by NAICS with the QCEW data which permits targeting the specific farm types of interest.
- Employer size is available with the QCEW data which is critical for the sampling design.
- Additions and deletions to the QCEW data base occur as soon as a new employer is liable for unemployment insurance taxes - typically after the first quarter of meeting the coverage requirement. Deletions occur as soon as an employer no longer meets the unemployment insurance coverage requirements.
- The three types of farm under consideration are much less likely to be rotated in and out of production than is the case for traditional midwestern agriculture. Citrus, for example, is a tree crop with a production horizon in decades rather than seasons.
- An area frame supplement is the most common "cure" for the problems raised in the question. However, an area frame would be extremely inefficient, i.e. costly, in

targeting only the three commodities to be sampled. Moreover, the use of an area frame supplement by USDA's *Farm Labor* when targeting *any type* of farm labor still results in a smaller estimate than the QCEW.

2. Questionnaire - I recommend adding a screening question to the worker questionnaire that screens out non-field workers, and workers who don't work on the crop of interest. Not all farm labor on an operation should be considered when assessing the financial impact of crop production. For example, you may find office workers, bookkeepers, mechanics, livestock workers, or general contractors, in the universe of farm employees.

**Response to Question 2:** Questions **CS5** and **CS6** of the FAWS questionnaire were designed to serve as screening questions. Note that sections II. A. and II. B. of Appendix E provide further clarification to the interviewers regarding which workers should and should not be interviewed. Question **CS5** alerts the interviewer to any worker doing non-crop based work, e.g. animal-based, in which case they would not be included. Question **CS6** alerts the interviewer to any contacted worker who may be doing primarily non-farm work such as a mechanic, office worker, etc., and consequently, is not to be interviewed. Any worker who meets the criteria in section II. A. of Appendix E is to be included, regardless of whether the crop work they are doing is specifically on one of the three crops of interest. Consistent with the fourth comment (addressed below), a number of citrus, tomato, and strawberry farms also have production crops other than these three. The intent is to include all workers on these three types of farms who meet the criteria of crop-based work in section II. A. of Appendix E. The research project focus is on the viability of the operations for these three types of farms under alternative labor market scenarios. A number of Florida strawberry growers, for example, grow other crops such as squash as a means of providing additional employment for their workers when the strawberry labor activity is slack. Since producer strategies such as this may be a means of coping with labor market problems, secondary crop activities and associated labor are included to provide a more complete evaluation of producer options.

Note that your comment highlighted an inconsistency in item 2 of section II. A. of Appendix E. It has been edited to be consistent with our intent. The original was:

Works in the production of plants including work done in nurseries and greenhouses such as planting, cultivating, fertilizing, grafting, seeding, or harvesting for the same three crops.

The revision is:

Works in the production of plants including work done in nurseries and greenhouses such as planting, cultivating, fertilizing, grafting, seeding, or harvesting any crops.

Note that an additional screening item is included at about mid-page of page one of the questionnaire:

Worker Is Actually Employed By?:  1 Grower  2 Contractor

This, in conjunction with the boxes immediately above on the questionnaire, is designed to alert the interviewer to a worker employed by a business different than the employer whose workers are currently to be interviewed. For example, if the first-stage selected employer is a grower, and a worker employed by a labor contractor mistakenly is included in the roster of workers compiled at the employer site, the interviewer is alerted that should such a worker be encountered for interview, the person is not to be included in the sample.

3. Sensitive Questions - I recommend that you have a plan for item non response particularly for the items that are deemed as sensitive questions. You have effectively demonstrated how you will deal with refusal of legal status questions. How will you deal with the refusal of health and injury information? It appears that your non-response adjusted earnings will be incorrect if health and injury costs are not calculated for all respondents. This can not be corrected by calibration of the employer non-response weight, mean wage for each employer is not tied to hours worked, therefore work loss due to injury is not adequately accounted for.

**Response to Question 3:** A new section addressing item nonresponse has been included in the revised document with subtitle **Item nonresponse** on pages 28-34. Introductory remarks were also included under the next higher heading level, **Nonresponse Adjustment**, on pages 23-24 to distinguish unit nonresponse, item nonresponse, and their expected relative importance. In addition, three new paragraphs have been added at the end of the **Unit nonresponse** section (pp. 27-28) to develop a jackknife estimator for the variance of calibrated earnings for subsequent use for item nonresponse. Although item nonresponse has not been a serious problem with the NAWS experience (and the same group will be conducting the interviews for FAWS using a questionnaire very similar to the NAWS questionnaire), an item nonresponse section has been added to address the problem should it happen to arise with the proposed survey.

The procedure is documented in detail in the document. Briefly, the procedure to be implemented is a multiple imputation approach. This is the current state of the art procedure for dealing with item nonresponse. The approach provides multiple estimates for missing values based on stochastic imputation models. The advantage of having multiple estimates is that it properly introduces the uncertainty concerning the estimates for the missing values in any subsequent analyses with the data. In addition, subsequent statistical analyses based on the data can be conducted with standard statistical software as if there were no missing values. The analyses are repeated for as many sets of imputations as are generated, with the final estimates a simple average across the results for each augmented data set. The procedures including the calculation of variances are shown in the revised document.

4. Use of Data - Will you use data collected on the crops of interest to make inferences about all specialty crops? Strawberries and tomatoes are not grown in isolation. They are almost always grown on vegetable farms that grow other vegetables, berries, and melons. How will multi-crops farms be addressed in your risk assessment model? Why not collect worker data about all of the available crops and model that for a risk assessment of specialty crops? Are you squandering an opportunity to collect more data for little extra effort?

**Response to Question 4:** The research is designed to address producer response to potential labor market changes in the context of specialty crops. Three important Florida specialty crops, each with different labor market characteristics, were selected to develop and apply the methodology. Collecting necessary employer data (not a part of the current PWRA package) and worker data as well as the analyses for all specialty crops would substantially increase the time and cost of the project. The three commodities were strategically selected to capture different labor market characteristics. The Florida citrus industry is a relatively large employer, operates throughout the state from roughly Orlando south, and most importantly, has a labor market structure made up of a combination of direct hires by growers, employment by labor market intermediaries such as labor contractors for hand harvest, and grove management firms for conducting cultural practices. By contrast, the Florida tomato industry, also a large labor employer, tends to rely largely on direct-hire employment rather than labor contractors. It is also widely dispersed across the state. Both citrus and tomato operations tend to be quite large, and are often characterized as components of industrialized agriculture in contrast to the more traditional family farm. The Florida strawberry industry, by contrast, is composed of operations somewhat closer to what are commonly referred to as family farms, tending to be smaller operations than either citrus or tomato operations. The industry is also geographically concentrated around Plant City (just east of Tampa). Florida strawberry growers tend to hire labor directly rather than utilizing labor contractors. Anecdotally, they are believed to have a less casual relationship with their workers than is characteristic with many specialty crops.

As noted in the response to question 2 above, eligibility for inclusion in the worker sample as outlined in Appendix E, section II. A., includes workers on citrus, tomato and strawberry farms doing any crop work, not just work on the three primary commodities. The first stage sample selection is from the universe of citrus, tomato, and strawberry employers. At the second stage, the sample of workers is drawn from the rosters of workers meeting the criteria of section II.A. of Appendix E which specifically includes any type of crop work, regardless of whether or not it is one of the three commodities designated for the first stage employer sample. This will allow us to consider the relevance of diversification among commodities as a means of risk reduction as you suggest in your question. As discussed in the response to question 2, we believe that the additional benefit of attempting to include all specialty crop workers regardless of the employer's primary commodity would not warrant the additional cost. The three commodities selected capture important differences among labor markets and employment, and are three major Florida specialty crops.