

2012 U.S. CENSUS OF AGRICULTURE

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FARM DEFINITION

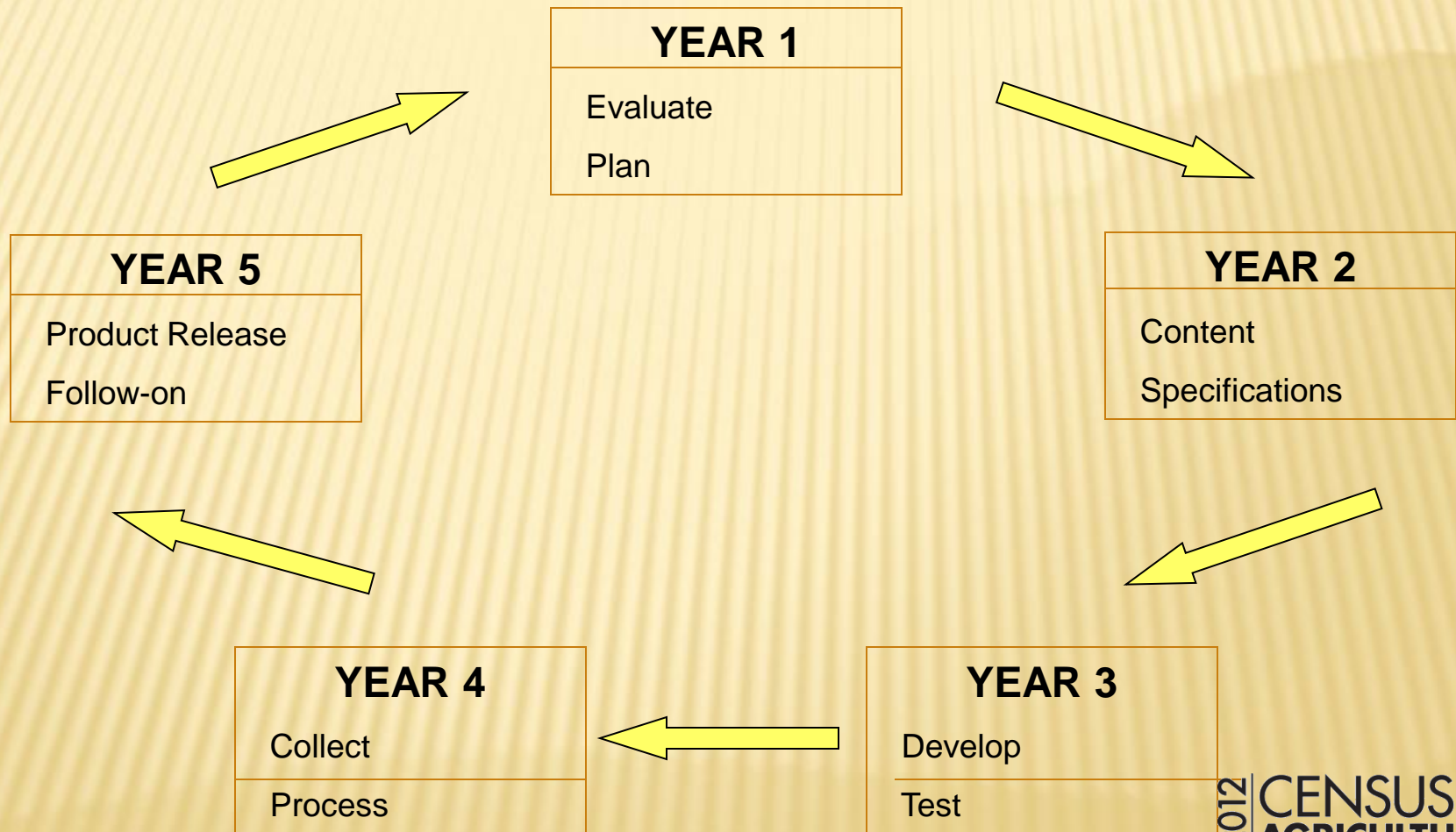
Any place that produced and sold,
or normally would have produced and
sold,
\$1,000 or more of agricultural products
during the calendar year

~ currently about 2.2 million farms

CENSUS OF AGRICULTURE

- × Conducted every five years
 - + Reference years ending in “2” and “7”
- × Information collected for the entire calendar year
- × Different than most other countries
 - + Primarily a mail survey
 - + Not associated with a population census
 - + Personal interview the last choice

5 YEAR CYCLE



FOLLOW ON CENSUSES

- ✘ Farm and Ranch Irrigation 20082013
- ✘ Renewable Energy 20092013
- ✘ Aquaculture 2013
- ✘ Land Tenure 2014
- ✘ Horticulture 20092014
- ✘ Organic 20082015

SAMPLING FRAMES

- ✘ List Frame

- + Names and addresses of known and potential farm operations

- ✘ Area Frame

- + Blocks of land

LIST FRAME

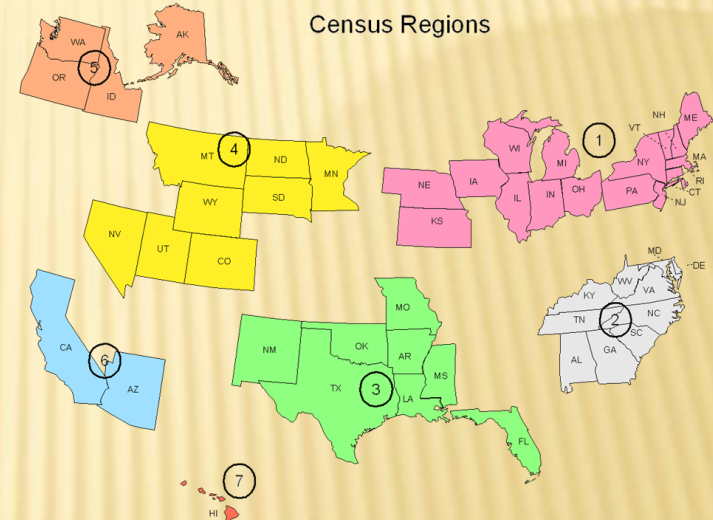
- ✘ Ongoing maintenance every year
- ✘ Major update before census
 - + National Agricultural Classification Survey
 - + Mailed 1,236,000 questionnaires for 2012
- ✘ Census questionnaire mailed to every operation on list
 - + Mailed 3,200,000 questionnaires in 2008

AREA FRAME

- ✘ Blocks of land totally enumerated
 - + 14,773 in 2012
- ✘ Name, address and operation information recorded
- ✘ Compared to Census Mail List
- ✘ Farms not on Census Mail List noted (NML)
 - + 12,821 farm operations noted in 2007
 - + 2,204,792 total farm operations in 2007

QUESTIONNAIRE

- ✘ Nine different versions
 - + Seven regions
 - + Puerto Rico
 - + American Indian
- ✘ Twenty-four pages
 - + 37 sections
 - + Covers all WCA 2010 core items
 - + Covers most WCA 2010 supplementary items
- ✘ Four pages of instructions



RESPONSES - 2007

✘ Mail	83%
✘ Telephone	7%
✘ Electronic	4%
✘ Enumerator	2%
✘ Total	96%

DATA CAPTURE

- ✘ Questionnaire scanned for image
- ✘ Image reviewed and paper destroyed
- ✘ Data entry from the image
- ✘ Data edits preformed
 - + Some have automatic corrections
 - + Some require human review
- ✘ Error review with image and keyed data

SUMMARIZATION

- ✘ County is lowest level
- ✘ Sum has three parts and adjustments
 - + Total from list (reported)
 - + Total from non-response adjustment (no report)
 - + Total from calibrated coverage adjustment (NML)

NON-RESPONSE ADJUSTMENT

- ✘ Based on classification tree analysis
- ✘ Use 10 input variables
- ✘ Create non-response adjustment groups
- ✘ All reports assigned to proper adjustment group
- ✘ Weights are adjusted within each group

COVERAGE ADJUSTMENT

- × Components
 - + Non-response adjusted weights
 - + Targets for calibration (over 100 per state)
 - + Tolerance for targets
 - + Weight range limit
- × System of linear equations solved to determine coverage weight
- × Iterative procedure

COVERAGE ADJUSTMENT ESTIMATOR

$$\hat{t}_y = \sum_k g_k d_k y_k = \sum_k w_k y_k$$

g_k = coverage adjustment factor for farm k

d_k = non-response adjusted weight for farm k

y_k = reported value for farm k

w_k = coverage adjusted weight for farm k

TABULATIONS

- ✘ Separate publication for each state + U.S.
- ✘ 120 tables in each publication
- ✘ 6120 tables
- ✘ 15,000,000 cells across all tables

SCHEDULE

- ✘ First mailing 28 Dec. 2012
 - + 3,000,000 for 2012
- ✘ EDR reporting 2 Jan. – 31 May 2013
- ✘ Reminder/Thank you 16 Jan. 2013
- ✘ Second mailing 14 Feb. 2013
- ✘ Third mailing 25 March 2013
- ✘ Phone/personal follow-up 11 Feb. – 14 June 2013
- ✘ Data capture and edit 23 Jan. – 14 June 2013
- ✘ Data analysis 13 Apr. – 30 June 2013

SCHEDULE

× Summary

- + Initial 25 July 2013
- + Second (No disclosure) 30 Sept. 2013
- + Final (Disclosure) 25 Nov. 2013

× First publication 4 Feb. 2014

LESSONS LEARNED

- ✘ Optical scanning for data capture failed
 - + Must design questionnaire for scanning
 - + Scan for image
 - + Key from image
- ✘ Short vs. long version questionnaire failed
 - + Different versions but same structure

**Thank you
for your
attention**