Thin Client
Computer Assisted Personal Interview

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National Agricultural Statistics Service

“Survey agricultural operations across the U.S. to provide accurate, timely and useful statistics on crops, livestock, production practices, farm economics, etc.”

- Conduct over 400 surveys a year.

- Data collection methods used - mail, personal interview, CATI, fax, Internet.
CAPI History at NASS

- **1980’s – 1990’s** - Conventional Laptop Computer (Indiana and Pennsylvania)

- **2004** - Portable Digital Assistant (PDA) (North Carolina)

- **2005** - Tablet PC (Iowa)

- **2007** - Convertible, Laptop, Tablet (Research and Development Division)

- **2010** - Lenovo Netbook (Indiana and New Jersey)
Thin Client CAPI

Agricultural Operation

Field Interviewer

USDA-NASS Web Survey Site

WiFi

MiFi

Wireless Broadband

Cell Tower

USDA - NASS Field Office
Efficiencies Realized

- **Data Entry**
  - Decrease data entry needs in Field Offices

- **Printing Costs (Questionnaires)**

- **Fed Ex / Postal Costs**

- **Timeliness of data**
  - In office same day
  - Increase data collection timeframe

- **Improve Data Quality**
  - Less data entry errors – keyed on spot
  - Increase response rates
WiFi can penetrate walls (concrete, metal).

Ability to move the MiFi’s for better signal reception.

Wireless.

Flexibility of carrier.

Password protected.

Encrypted signal.
Why Apple iPad²?

- Lightweight (1.3 – 1.5 lbs)
- Screen Size – (7.3”x9.5”)
- Long Battery Life (10 hrs)
- Good Screen Visibility (Anti-Glare Screen Protector)
- Touch Screen Technology
- Easy to use On-Screen Keyboard
- Secure
- Durability
- Cost - $500
Built In Keyboard
Multi - Touch Display
Environmental Requirements

- Operating temperature: 32°F to 95°F
- Nonoperating temperature: -4°F to 113°F
- Relative humidity: 5% to 95% noncondensing
- Maximum operating altitude: 10,000 feet
Security

- No data on device.
- Passcode protected
- Broadband signal encrypted
- Wi-Fi hot spot paired with iPad
- Updates thru iTunes
- Secure Socket Layer (SSL)
Asynchronous JavaScript and XML. Was created to make the client side page communicate with the server, without the need of a different page or a refresh. Combines the languages XHTML, HTML, CSS, JavaScript and XML and helps them all interact with each other easier. Ajax can change the way dynamic pages are viewed and interacted.

http://www.adaptivepath.com/ideas/e000385
NASS’s Use of Ajax

Continuously searching for a broadband connection while field enumerators is conducting the interview.

Each question on web questionnaires has Ajax technology attached to it via programming code.

Once a signal is found, it transmits the data to the NASS’ web data collection system in the cloud.
NASS’s CAPI Site

Login

USDA National Agricultural Statistical Service

Username: 

Password: 

submit
Section 1 - Acres Operated

Please report total acres operated under this land arrangement.

1. On February 1, how many acres did this operation:
   
   a. Own?  
   
   b. Rent or Lease from others or use Rent Free?  
   (Exclude land used on an animal unit month [AUM] basis.)  
   
   c. Rent to others?

2. Calculate item 1a + 1b - 1c. Then the total acres operated on February 1 was:
   
   a. Does this include the farmstead, all cropland, woodland, pasture land, wasteland, and government program land?

   + 901 300
   + 902 200
   - 905
   = 900 500
State: 10 Delaware  |  County: 001 Kent
Point: 0102C

[Show the aerial photography to respondent and locate the sample point. Identify the field associated with the point.]

1. Did you make any of the day-to-day farming/ranching decisions for the field containing this point in 2011?
   - Yes ☑

   Field border is drawn

2. During 2011, was the entire field enrolled in the General or Continuous Conservation Reserve Program (CRP), the Conservation Reserve Enhancement Program (CREP), or any other type of continuous cover conservation program offered by State, local or non-profit organizations?
   - No ☐

3. In 2011, was any part of this field:
   - planted to a crop (excluding hay, fruits, nuts, citrus, greenhouse, and nursery crops); or
   - idle cropland; or
   - summer fallow?
   - Yes ☑

4. Enumerator Action
   Wireless internet signal is present at the time of the screening interview
   - Yes ☑

   Proceed with interview
   Data Saved? ☑
Where Implemented & Training:

- Currently: DE, MD, NJ, NY, PA, VA, WV, SC, MN, WI, IN, KS, ND, SD, OK, TX.

- Future: 20 States

- Training (Less than 2 days)
Future Opportunities

- Time and Attendance System
- Expense Reimbursements
- Assignments
- Interviewer’s Manuals
- Training Materials/Videos
- Marketing Materials/Videos
Questions