

# Thin Client Computer Assisted Personal Interview

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National Agricultural Statistics Service

2012 Federal Committee on Statistical Methodology

# 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

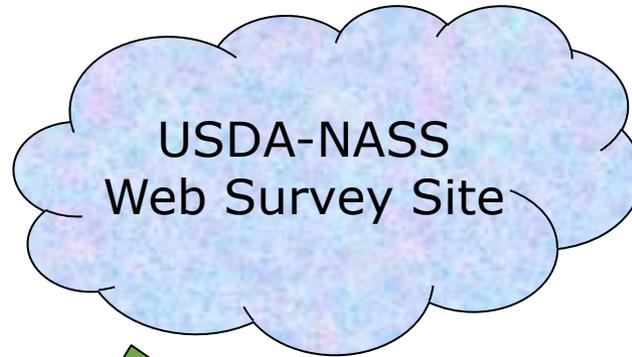
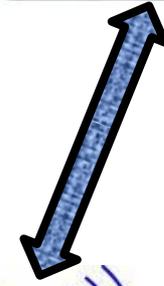
WiFi



MiFi



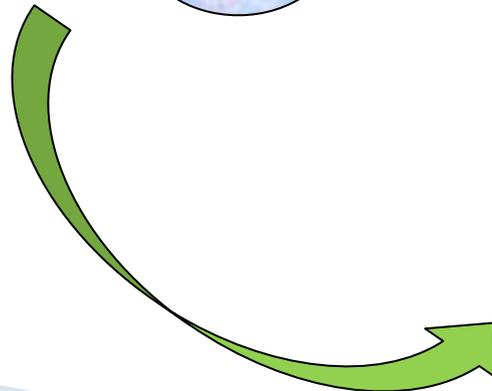
Wireless  
Broadband



USDA-NASS  
Web Survey Site



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

# Wireless Broadband & Portable Hotspots (MiFi)



WiFi can penetrate walls (concrete, metal).

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

Wireless.

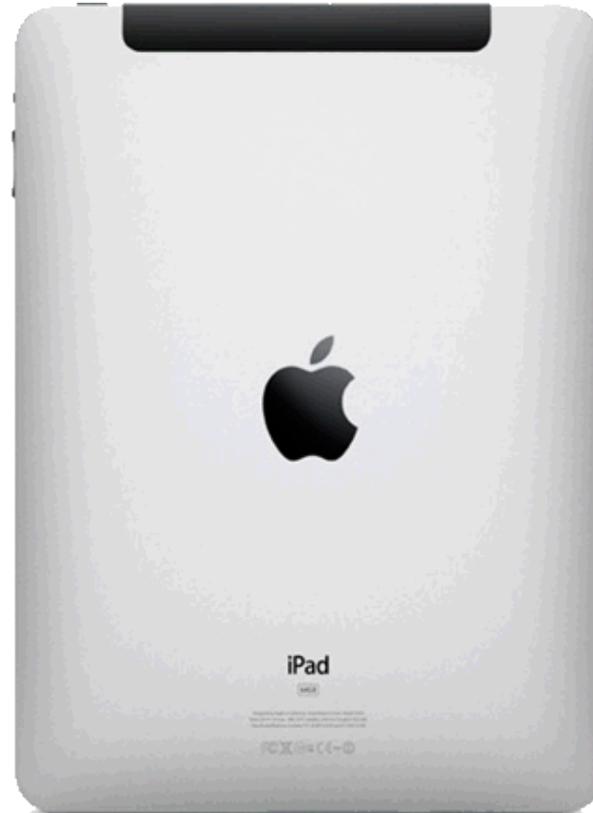
Flexibility of carrier.

Password protected.

Encrypted signal.



# Apple iPad 2



# Why Apple iPad<sup>2</sup>?

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



# Google Maps



# Driving Directions

# Environmental Requirements



- ▶ Operating temperature:  
32 to 95 F
- ▶ Nonoperating temperature:  
-4 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)



# Ajax

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.

# 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

iPad 7:17 PM 79%

National Agricultural Statistics Service

www.agcounts.usda.gov/capi/enumerator

Google

## Login

### USDA National Agricultural Statistical Service

Username:

Password:

submit

**Please report total acres operated under this land arrangement.**

1. On February 1, how many acres did this operation:

**Acres**

a. Own? + 901 300

b. Rent or Lease from others or use Rent Free? (Exclude land used on an animal unit month [AUM] basis.) + 902 200

c. Rent to others? - 905

2. Calculate item 1a + 1b - 1c. Then the total acres operated on February 1 was: = 900 500

a. Does this include the farmstead, all cropland, woodland, pasture land, wasteland, and government program land?

Previous Next e AutoFill (Continue)

No - (Make corrections, then Continue)



# Conservation Effects Assessment Project

Verizon 3G 2:53 PM 79%

CEAP Screener

digger.cssm.iastate.edu/ceap/#rsl=0&stat... Google

USDA United States Department of Agriculture National Agricultural Statistics Service CSSM

CEAP Screener **Chooser** **Point** [About Servers](#)



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

**Proceed with interview**  
Data Saved?

Field Border  
 View  Draw  Erase    | 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

