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# **The Agricultural Resource Management Survey and the USDA Costs and Returns Estimation Program**

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**Presented at the AAEA Organized Symposium:  
Standard for Exchanging Costs and Returns Information  
Long Beach, CA, July 30, 2002**

# **Overview of the CAR Estimation Program**

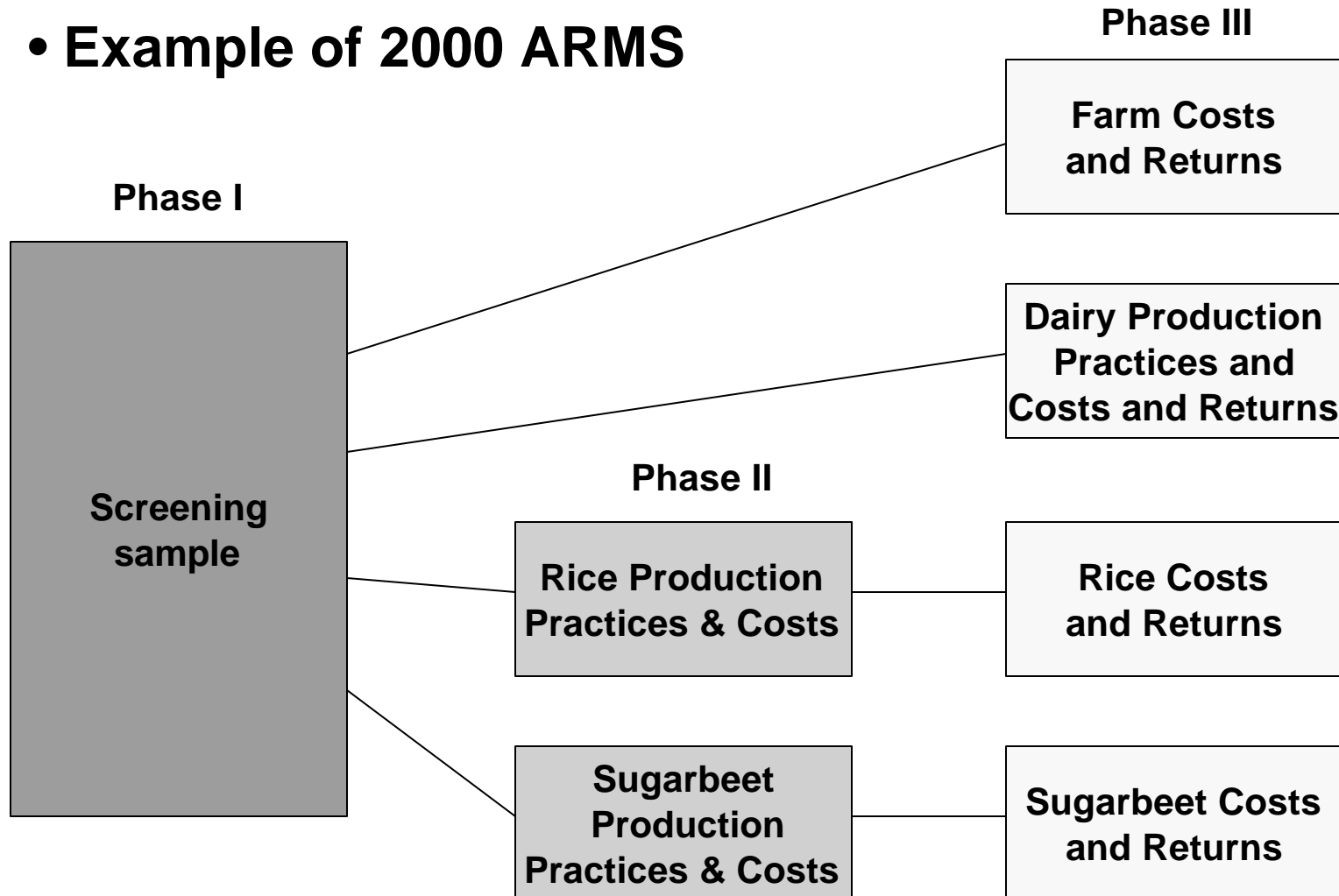
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- **National and regional accounts for 15 commodities from 1975 to 2000**
- **Based on data from ARMS commodity surveys done every 5-8 years on a rotating basis**
- **Estimates between surveys are updates based on price, acreage, and production changes**
- **Methods for CAR estimation conform to recommendations of the AAEA Task Force**
- **Survey year estimates developed at the farm-level**

# CAR Data Collection in the ARMS

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- **Example of 2000 ARMS**



# The Farm-Level Approach to CAR Estimation

- CAR estimates for every farm in the ARMS data
- Variation in CAR estimates can be measured
- Facilitates analysis of the ARMS and CAR data
- Example:

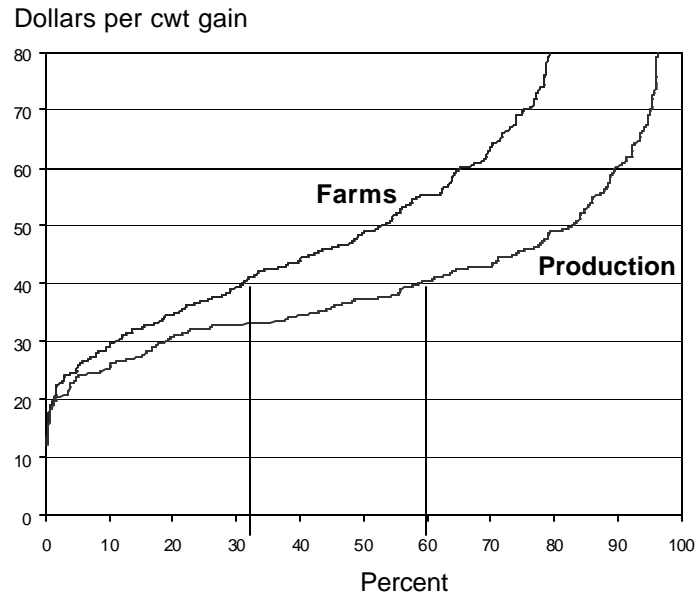
**Farrow-to-finish production costs per cwt gain, 1998**

**Mean = \$43.56**

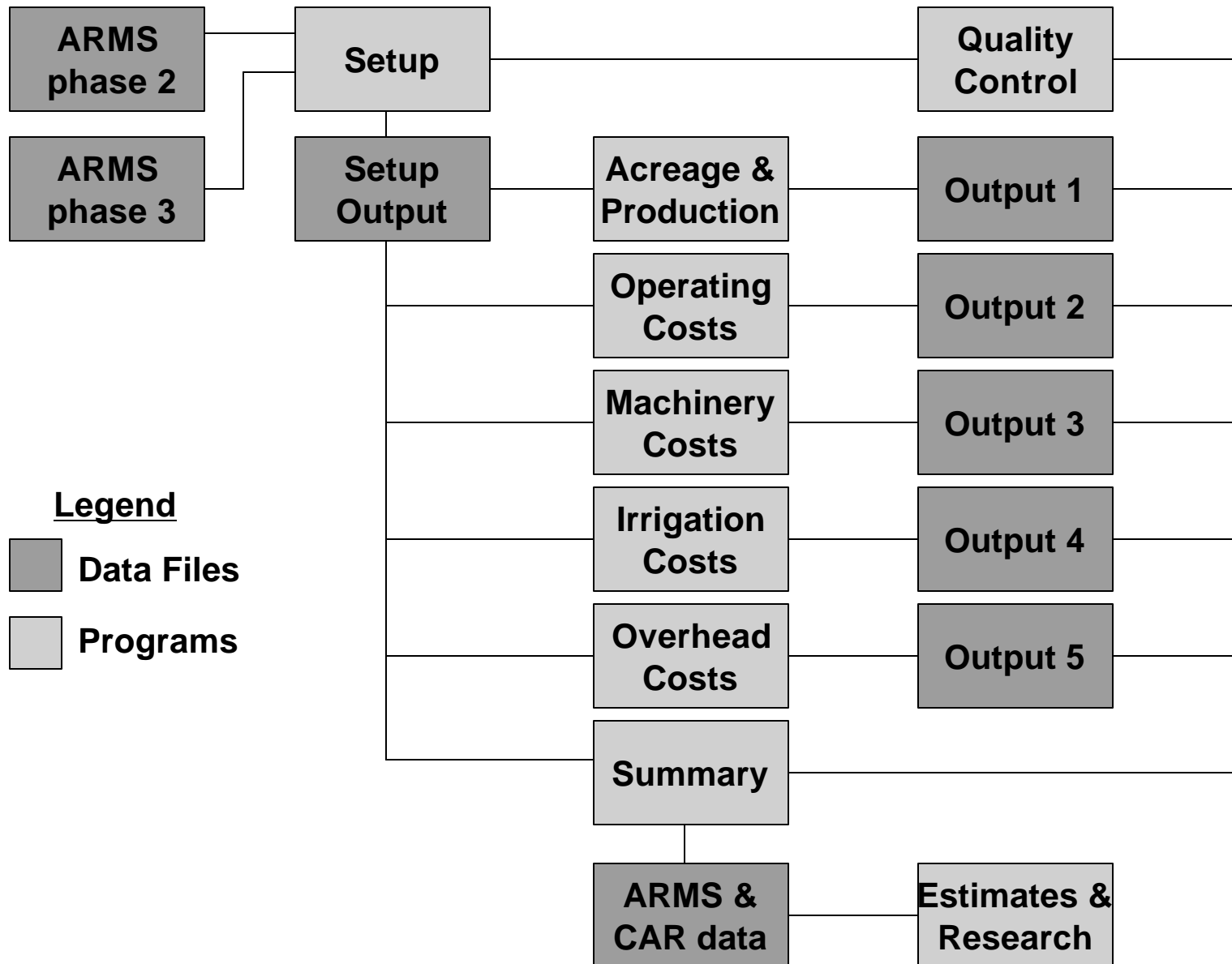
**CV = 2.28**

**CI<sub>95</sub> = \$41.43 - \$45.69**

**Cumulative distribution of production costs**



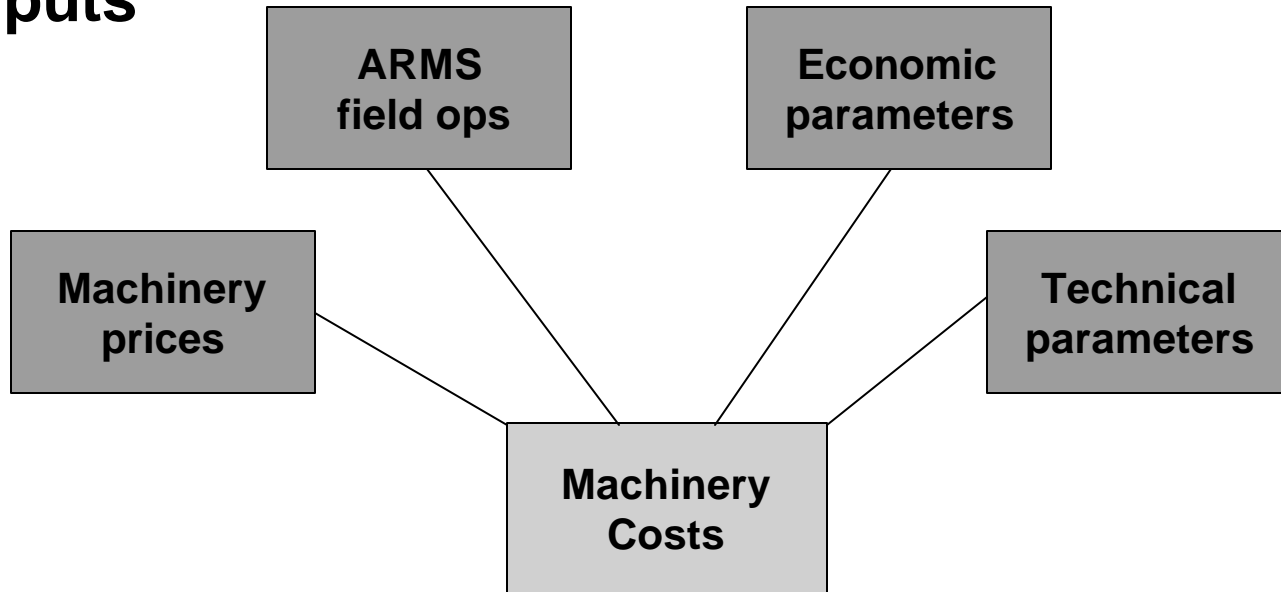
# Developing Farm-Level CAR Estimates



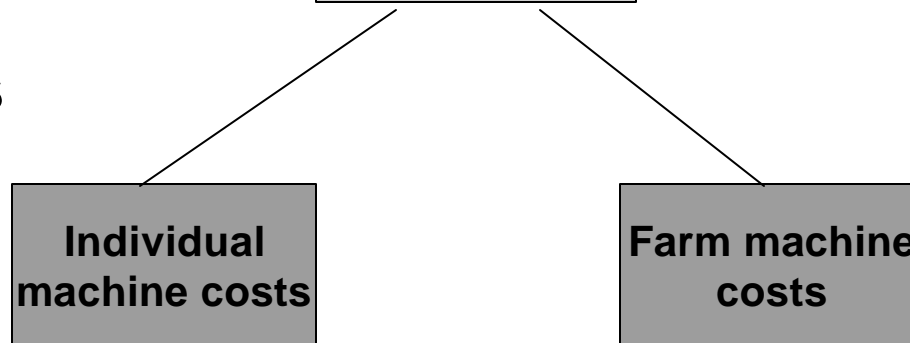
# Input and Output of the Machinery Cost Program

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## Inputs



## Outputs



# Quality Control

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- **Survey responses are evaluated for completeness and consistency**
- **Data edited at:**
  - 1-NASS state field offices**
  - 2-ERS**



# Data Products from the CAR Estimation Program

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## 1-Phase 2 data file with enterprise:

- input use
- production practices
- costs and returns

## 2-Phase 3 data file with farm:

- income and expenses
- assets and debt
- business and operator characteristics
- farm household characteristics

## 3-Link between phase 2 and phase 3 data

# Research Applications of the Data

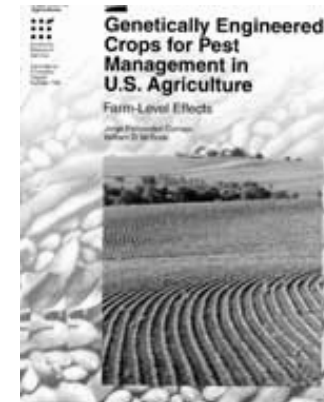
## Technology Adoption Decisions in Dairy Production and the Role of Herd Expansion



## Land Tenure and the Adoption of Conservation Practices



## Genetically Engineered Crops for Pest Management in U.S. Agriculture



## Pest Management in U.S. Agriculture



## Factors Contributing to Earnings Success of Cash Grain Farms



## An Analysis of Risk Premia in U.S. Farm-Level Interest Rates



# Accessing the Data

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- **Complete project outline with description, objectives, and data needs and planned uses**
- **Project outline is evaluated according to the USDA mission and data adequacy**
- **Sign formal agreements on data use**
- **Access provided at ERS or NASS state statistical office**
- **For more information contact Merritt Padgitt, [mpadgitt@ers.usda.gov](mailto:mpadgitt@ers.usda.gov)**