

CROP INSURANCE

**Casualty Actuarial Society
Annual Meeting
San Francisco**

**Carl X. Ashenbrenner
Consulting Actuary
Milliman, Inc.**

November 13, 2006

A MILLIMAN GLOBAL FIRM



Milliman

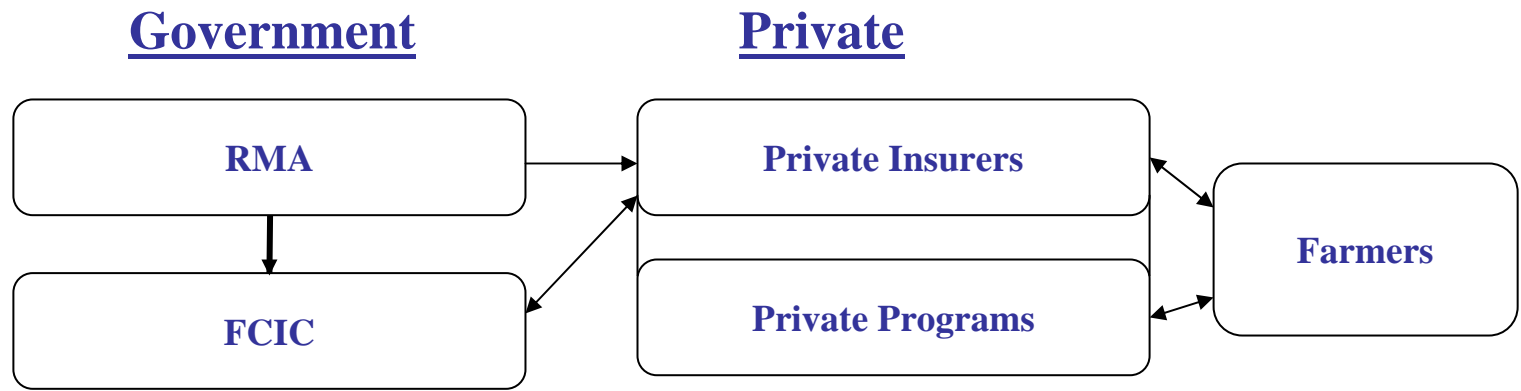
Consultants and Actuaries

Crop Insurance Speakers

- Carl Ashenbrenner, FCAS, MAAA
Milliman, Inc.
- Richard Lord, FCAS, MAAA
Milliman, Inc.
- Myles J. Watts, Ph.D.
Professor, Department of Agricultural Economics
- David Bickerstaff, FCAS, MAAA
Bickerstaff, Whatley, Ryan & Burkhalter, Inc.

Crop Insurance Overview

➤ Private and Public Partnership



Crop Insurance Overview

- **USDA Risk Management Agency (RMA)**
 - Created in 1996 to operate and manage FCIC
 - Responsible for:
 - Program delivery
 - Research and development
 - Risk compliance

- **Private Insurers sell and service MPCCI policies**
 - AIP (Approved Insurance Provider)
 - Reinsured by FCIC
 - Also have private insurance programs (Crop Hail)

Crop Insurance Overview

- FCIC reinsures the private insurers (AIPs)
 - AIPs can also have commercial reinsurance
- Each policy written by AIP is placed into a fund
 - Assigned risk
 - Commercial (CAT, Revenue, Other)
 - Development (CAT, Revenue, Other)
- AIP cede certain percentage for each fund/state on a quota share basis
- FCIC provides additional reinsurance for each fund on an overall basis

Crop Insurance Overview

- AIP Provides
 - Marketing
 - Administration
 - Loss Adjustment

- RMA Provides
 - Rating plans (actuarial documents)
 - Underwriting handbook
 - Loss adjustment handbooks
 - Research & Development for pilot programs

- FCIC pays AIP % of premium for expenses

Crop Insurance Programs

- Public MPCCI
 - AIP must take all comers
 - Standard rating plans designed and managed by RMA

- Private Crop Hail
 - Provides hail coverage above (or in place of) MPCCI
 - Provides ancillary protection (fire in storage, transit)
 - Competitive

- Public NAP
 - The Non-Insured Crop Disaster Assistance Program (NAP)
 - Crops which do not have a MPCCI/CAT Program
 - Farmers with less than \$2 million annual gross revenue
 - Coverage at 50% APH and 55% price

Crop Insurance MPCI Programs

➤ Actual Production History (APH) Plan (Basic Program)

➤ Example:

Approved Yield = ten-year historical average = 100

Coverage level = 75%

Price = \$1

Liability = $100 \times .75 \times \$1 = \75

Actual Yield = 60

Indemnity = $75 - 60 = 15 \times \$1 = \15

Crop Insurance Programs

- Actuarial documents known as FCI-35 provide rating plan
- Each crop has a FCI-35 in each county where insurance is provided
- Smaller crops typically have only one insurance program

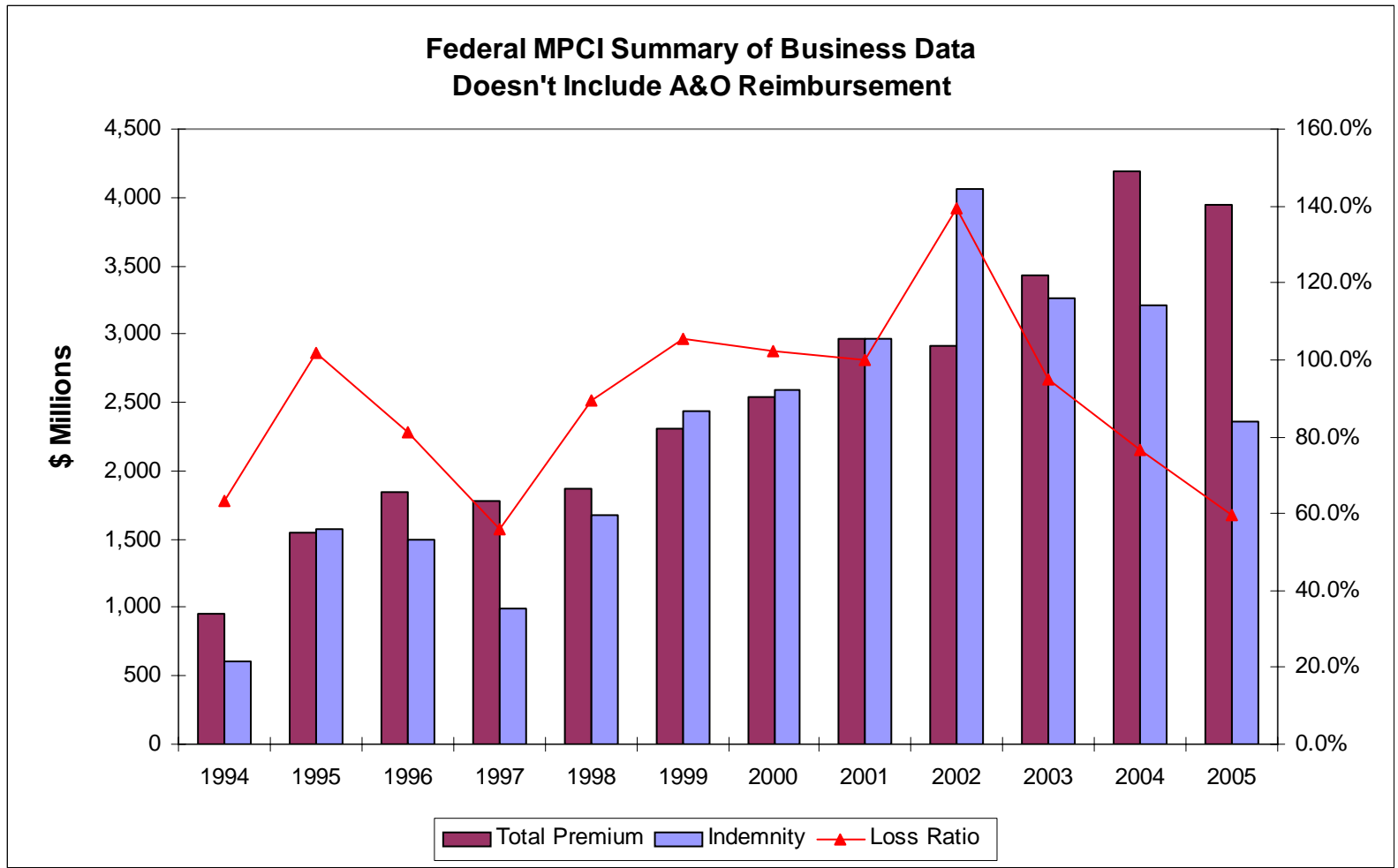
Crop Insurance Programs

- Group Risk Plan (GRP) – uses overall county yield as basis for determining loss
 - Individual farmer's yield not basis of indemnity
 - Selected by farmers whose yield follow county average (lower cost)
- Dollar Plan – based off cost of production in area
 - Indemnity measured off of revenue received by farmer
 - Tree programs which cover \$X per tree for certain fruits
- Group Risk Income Protection (GRIP) – uses county revenue as trigger
 - Similar to GRP, but uses county revenue

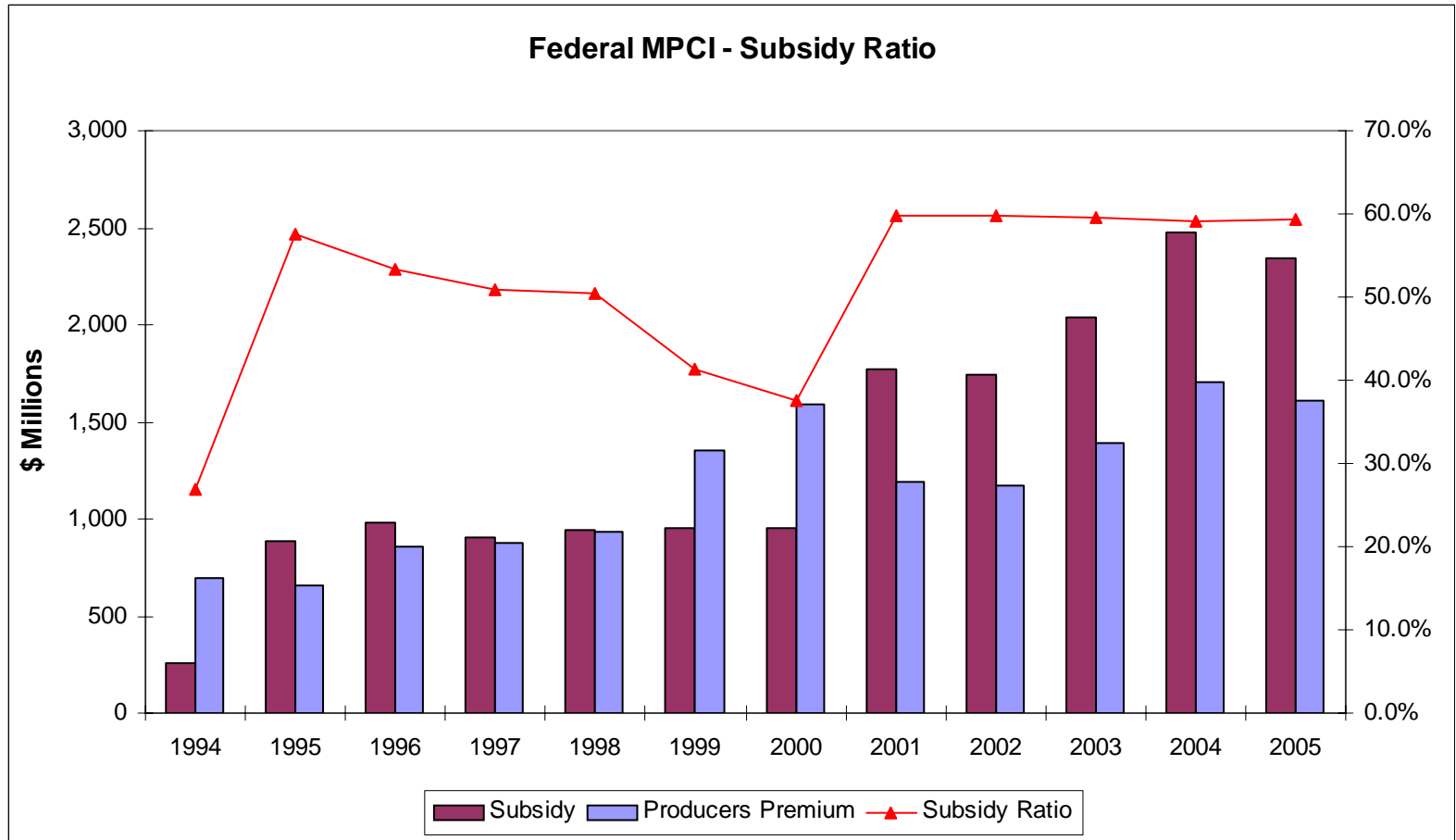
Crop Insurance Programs

- Adjusted Gross Revenue (AGR) – insures a percentage of average revenue for a farmer
- Programs based on yield and price (difference in how price is determined)
 - Crop Revenue Coverage (CRC)
 - Income Protection (IP)
 - Revenue Assurance (RA)
- RMA now proposed “combo” policy which would replace plans for most grains

Crop Insurance Results

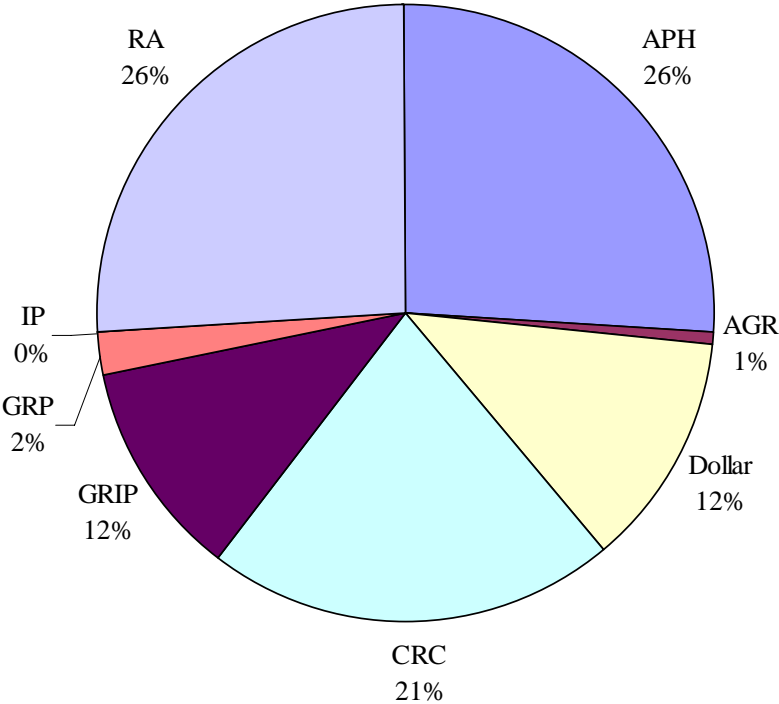


Crop Insurance Results



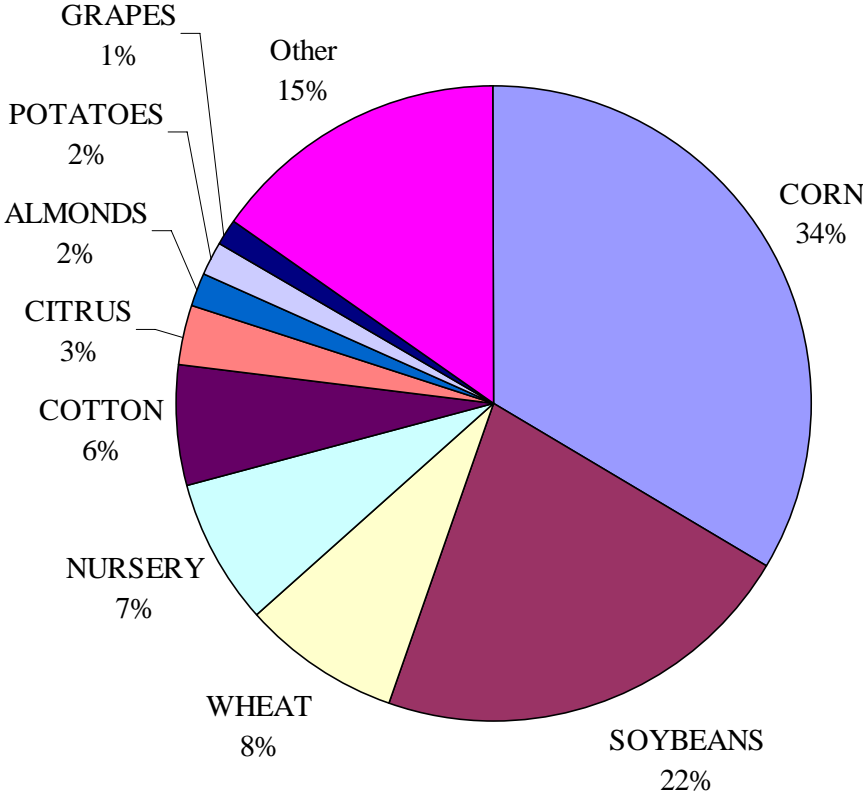
Crop Insurance

Insured Liabilities by Plan 2005



Crop Insurance

Insured Liabilities by Crop 2005



Crop Insurance

Questions?

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