United States Department of Agriculture

Farm and Foreign Agricultural Services
Risk Management Agency

September 21, 1999

INFORMATIONAL MEMORANDUM

TO: All Reinsured Companies
American Association of Crop Insurers
Crop Insurance Reinsurance Bureau
National Crop Insurance Services

FROM: Tim B. Witt /s/ Tim B. Witt
Deputy Administrator

SUBJECT: 2000 Cotton Premium Rate Development

BACKGROUND:

The report accompanying S. 2159 "Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriation Bill, 1999" directed the Risk Management Agency to conduct a study of premium rates for cotton. That study has been completed. The first part of the report covering States east of Oklahoma and Texas is available on the Risk Management Agency's (RMA) website at http://www.act.fcic.usda.gov/reports/cotton. Anyone who is interested in specific findings of that study should review that document. Analysis for the remaining States has been completed, and a report including those States will be issued soon.

The report referenced above does not contain specific premium rates. Those rates were developed by RMA subsequent to that report. A summary of those results is included with this memorandum as attachments 1 and 2. Attachment 1 summarizes those methodologies. Attachment 2 contains maps showing the percent change in rates between the 1999 and 2000 crop years.

A conference call is scheduled for Friday, September 24, 1999, at 10 a.m. central daylight time to discuss these documents and any related questions. Please call **1-800-545-4387** a few minutes prior to 10 a.m. and enter **M29551** to be connected to the call.

Attachments

Attachment 1

Crop Year 2000 Cotton Premium Rates

The Risk Management Agency (RMA) normally develops premium rates with a loss cost (pure premium) method. This method uses the rate of loss from a base period to estimate rate requirements for future losses. Rates developed by this technique are valid under certain conditions. In particular, the experience must have been developed by insured persons whose characteristics are representative of the population in the area being rated. The pool of buyers need not be overly large if participation occurs randomly from the population of eligible producers. Many farmers and their representatives have suggested that, in the case of cotton in certain states, the conditions needed to estimate valid rates using the loss cost method have not been met for a variety of reasons. This and other concerns led to the directive in the Senate report.

RMA has analyzed its experience with cotton and has concluded that the loss experience underlying the loss cost methodology does not reflect the overall experience of the cotton industry in several States, notably Arkansas, Arizona, California, Louisiana, Mississippi, Missouri, and Tennessee. In most of these cases, annual changes in county average yields and the annual changes in the loss ratio have no relationship to each other. Higher than average yields may be associated with high loss ratios or low loss ratios. The expected pattern–low loss ratios when yields are high and high loss ratios when yields are low–does not exist.

RMA used its rating model for the Income Protection (IP) plan of insurance to estimate premium rates for cotton in addition to the loss cost method. The IP model uses two sources of data. County average yields since 1946 provide a long-term assessment of changes in cotton yields. Individual producer yields reported under the Actual Production History (APH) program provide an assessment of the variation of producers' yields relative to those county averages. The IP model estimates premium rates for an entire farming operation; i.e., a crop policy, by combining the data from the APH database with the long-term average yields.

Analysts at Mississippi State University also developed premium rates for several counties in the delta region. They model they used differed in many respects from the IP model–it allowed units and had several technical differences. The results do not exactly match those from the IP model county by county, but do indicate the same general tendency. For many counties, both methods indicate that the premium rates developed from the loss experience are not consistent with the yield experience, which is the same indications that RMA obtained when it directly compared changes in average yields to changes in loss ratios.

Differences between the experience based rates and the modeled rates existed even though RMA attempted to eliminate the effect of factors such as the "D" yields from its experience data. As a result of these analyses, the following approaches have been used to develop cotton premium rates for crop year 2000.

Arkansas, Arizona, California, Louisiana, Mississippi, Missouri, Southwestern New Mexico, and Tennessee.

Premium rate indications from the IP model with these conditions applied:

1. No rate is allowed to decrease by more than 50 percent from the 1999 issued premium rate.

2. IP rate has been loaded by 25 percent to recognize unit division that is not included in the IP modeled rate. This estimate of the appropriate surcharge to move from enterprise to optional units is based on several crops and areas.

3. A flat loading of 2 percentage points is included to reflect uncertainty with regard to the completeness of the APH data base.

All Other States, Including Eastern New Mexico

Premium rates are based on the loss cost methods of the standard RMA rating method. The data as adjusted for "D" yields were used. Changes in premium rates relative to 1999 follow the same rules as for all other crops rated with the standard method: not more than a 5 percent increase or more than a 10 percent decrease. Insurance experience from 1975 to 1998 is included.

Developing Final Rates for All States

The Regional Service Offices reviewed the premium rates for each county. Typically, changes to the raw indications were made to smooth across counties, to recognize irrigated vs non-irrigated practices, to temper results (up or down) in relatively new counties with limited experience, and to discriminate high risk land. This review process is similar as that used for all crops.

Other Considerations

Enterprise units will be added for the 2000 crop year under the same rules as other APH enterprise units with the size of the enterprise unit to be the factor that establishes the amount of the discount.