The Impact of ENSO Phase on Rainfall Insurance Purchase Decisions

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1) Purpose
Group Risk Rainfall Index insurance (RI) was made available in Alabama for the 2008 production year to help livestock and forage farmers manage the risk of rainfall shortage associated with hay and pasture production. Producers taking RI insurance must indemnify a minimum of two 2-month production Intervals for indemnification. The question of which two Intervals are at highest risk during alternative ENSO phases is examined in this analysis.

2) Scope
Data from four experiment stations representing coastal, central and north Alabama are examined. No attempt is made to restructure premiums which are set by the Risk Management Agency/USDA. Study analysis instead keys on which two 2-month periods result in the highest expected value of payoff during alternative ENSO phases and the question of whether optimal indemnity Intervals differ during specific ENSO phase given the expected payoffs under the current structure of the insurance. These results are expected to provide producers information which may require altering choices of optimal indemnified Intervals during specific ENSO events.

3) Methods used,
Monte Carlo simulation is used to estimate distributions of Rainfall Indexed shortfall under alternative ENSO phases. Data provided by NOAA on the RMA/USDA website are used to calculate insurance premiums and from that net of insurance cost expected return values for alternative insurance coverage levels for the four sites used in the study by 2 month time interval.

4) Results
Results of the study indicate differences by ENSO phase and location of the optimal time periods (Intervals) to insure to obtain the maximum total dollars of insured protection.

5) Conclusions
Across all study sites, Neutral years appear more consistent will combined ENSO results than during specific La Nina or El Nino events. Results showing optimal time Intervals to indemnify vary by location and ENSO events.

6) Recommendations
Producers of hay and grazing livestock who invest in this insurance must consider variations in ENSO phase to obtain the maximum risk protection. These results are consistent across pasture and hay land.

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