Confectionary Sunflower Pricing Methodology

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The authority to derive a confectionary sunflower price factor is found in the Commodity Exchange Price Provisions (CEPP), which informs stakeholders that the confectionary sunflower price will be the CEPP price determined for oil type sunflowers, "plus an adjustment as determined by RMA." All three plans of insurance associated with the COMBO policy use the same methodology to determine a factor. Data are gathered from the National Agricultural Statistics Service (NASS).

Methodology

The adjustment added to the oil type CEPP price is calculated by forecasting both oil type and confectionary sunflower prices using Holt's two-parameter, double exponential smoothing technique with α = 0.25 and β = 0.10557 on a series of NASS price data beginning with the year 1975.

Three equations and two smoothing constants are used in the model:

The exponentially smoothed series or current level estimate:

$$L_t = \propto y_t + (1 - \propto)(L_{t-1} + b_{t-1})$$

The trend estimate:

$$b_t = \beta\,(L_t - L_{t-1}) + (1 - \beta)\,b_{t-1}$$

Forecast *m* periods into the future:

$$F_{t+m} = L_t + m\,b_t$$

Where:

$$L_t = \text{Estimate of the level of the series at time t}$$

$$\propto = \text{smoothing constant for the data}$$

$$y_t = \text{new observation or actual value of series in period t}$$

$$\beta = \text{smoothing constant for trend estimate}$$

$$b_t = \text{estimate of the slope of the series at time t}$$

$$m = \text{periods to be estimated into the future}$$

The adjustment added to the oil type CEPP price is the number obtained by subtracting the oil type forecast from the confectionary forecast.