

Questions and answers from Session 4 Managing Margin Risk

1. *What is VaR?*

VaR is “Value-at-Risk” and it is used to measure downside risk of a portfolio of assets or a risk management strategy. For a given portfolio, probability and time horizon, VaR is defined as a threshold value such that the probability that the mark-to-market loss on the portfolio over the given time horizon exceeds this value (assuming normal markets and no trading) is the given probability level.

Perhaps the best way to explain VaR is with an example. For example, consider a risk management strategy with average revenue of \$300 per acre and a 5% VaR of \$125 per acre. On average the return to this risk management strategy is \$300 per acre. The \$125 per acre 5% VaR means there is a 5% probability that the risk management strategy will result in revenue of less than \$125 per acre. Alternatively, revenue of \$125 per acre or less from this risk management strategy would be expected from 1 year in 20.

2. *How do you do the percent probability charts?*

The futures price probability charts are based on the current futures price and the options premiums and use the Black-Scholes model. The farmdoc website has a tool that will calculate the probabilities using futures prices and options premiums. This tool isn't as detailed as what we presented but it is easy to use. The website is:

<http://www.farmdoc.uiuc.edu/pubs/FASTtool.asp?category=grain>

Download the “Grain Pricing Model”.

3. *As you explained how a “Minimum Price Contract” works. I was wondering if you can go to your local elevator and set up a “Maximum Price Contract”? The reason for this is because along with crops we also operate a 1,100 hd. Farrow/finish operation. We can only raise about half of our corn and have to buy the balance. We buy about 130-150 thousand bu. annually depending on our crop yield. So what can I do as just not a crop grower but also as an input buyer do to help protect my top side of buying inputs.*

Yes, you can set up a maximum price contract. A maximum price contract can be designed either by buying a call or selling a put. If the elevator doesn't offer this contract, you can work with a broker to establish a maximum price through the options market.