

Summary Overview of Vegetation Insurance Plan for Pasture, Rangeland, and Forage

The Vegetation Index (VI) insurance plan is a pilot area insurance plan for pasture, rangeland, and forage (PRF) grown for the intended use of grazing by livestock or haying. The VI-PRF insurance plan is a risk management tool to insure against a decline, caused by natural occurrences, in an index value that is based on the long-term historical average for the same area of land for the same period of time. It does not measure, capture, or use the actual crop production of any producer or any of the actual crop production within the area.

Unlike other Federal crop insurance area insurance plans that are based on county boundaries, the VI-PRF program uses a numbered grid system. Each grid covers approximately an 8 kilometer by 8 kilometer area and is identified by a specific number code, referred to as a grid ID. The grids are created by the Risk Management Agency (RMA) using U.S. Geological Survey Earth Resources Observation and Science (EROS) 1 kilometer by 1 kilometer gridded data aggregated to an 8 kilometer by 8 kilometer area, and do not follow state, county, or other geopolitical boundaries.

The VI-PRF program uses the Normalized Difference Vegetation Index (NDVI), which is a measure indicating the density of photosynthetic biomass on the ground based on the processing of satellite imagery. Photosynthesis activity of all biomass, including row crops, irrigated crops, trees, and even weeds is included in the NDVI data. The NDVI data is obtained from the U.S. Geological Survey EROS data center, and is based on proven, sound, scientific, and technological principles. The NDVI data undergoes a rigorous quality control process before being released by the U.S. Geological Survey EROS data center.

NDVI data is obtained for the following 10 3-month time periods, referred to as index intervals, during a year for each grid ID. Historical NDVI data from 1989 to present is also obtained for each index interval and grid ID:

- January, February, and March;
- February, March, and April;
- March, April, and May;
- April, May, and June;
- May, June, and July;
- June, July, and August;
- July, August, and September;
- August, September, and October;
- September, October, and November; and
- October, November, and December.

NDVI measurements are obtained for each grid ID throughout the index interval and are averaged to determine the Final Grid Index for each grid ID. Each EROS, bi-weekly, composite value within the index interval is given equal weight when determining the final value. Therefore, readings taken during the beginning or end of an index interval do not have a greater significance than any other reading during the index interval. However, the density of photosynthetic biomass on the ground in the prior index interval does have a carryover effect and can impact the Final Grid Index of the subsequent index interval.

An Expected Grid Index is calculated for each grid ID and index interval using the long-term, historical, average, NDVI data for the grid ID and index interval. The Expected Grid Index represents the average density of photosynthetic biomass on the ground within the grid ID during the index interval based on NDVI data from 1989 to present.

Indemnity payments are earned by eligible producers when, due to natural occurrences, the Final Grid Index is less than the result of multiplying the Expected Grid Index times the coverage level selected by the producer. This is the Trigger Grid Index. The NDVI data used to calculate the Final Grid Index and the Expected Grid Index is conclusively presumed to be accurate. RMA does not alter the NDVI data.

Because VI-PRF is an area insurance plan and does not measure, capture, or use any actual crop production, an eligible producer may experience a production loss and not receive an indemnity payment. However, it is also possible for an eligible producer to receive an indemnity payment without suffering a loss of actual production. The producer's production amount is not considered and no on-the-ground inspection of crop conditions is conducted to determine eligibility for an indemnity payment.

Producers should carefully consider the following when determining whether to participate in the VI-PRF insurance plan:

- The photosynthesis activity of all biomass in the grid including row crops, irrigated crops, trees, and even weeds is included in the NDVI data. Therefore, producers should consider the types and amount of other biomass within the grid and how it may impact the NDVI data.
- VI-PRF uses the long-term historical average density of photosynthetic biomass on the ground within the grid ID during the index interval. Producers should carefully review the historical experience of each grid ID and index interval(s) they are considering to determine whether their actual production has followed the same historical patterns. VI-PRF is best suited for producers whose production tends to follow NDVI's historical patterns. To assist producers in this review, RMA provides historical indices information for each grid ID and index interval on its website.
- VI-PRF offers up to 10 index intervals in which eligible PRF may be insured. Selection of the appropriate index interval(s) is critical. To be an effective risk management tool, producers must select the index interval(s) that includes the time period when vegetation growth normally occurs under normal conditions. Selecting an index interval when vegetation growth does not normally occur is not an effective use of the program.
- The reason for the Final Grid Index being less than the Expected Grid Index must be due to natural occurrences for any indemnity payments to be earned.