Rainfall Index for Pasture, Rangeland, and Forage (PRF)

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*Some program material adapted from a program by Dr. Brittany Goodrich
Rainfall Index Insurance for Pasture, Rangeland and Forage (PRF)

- Provides producers with insurance against drought-like conditions which would affect forage production
- Covers perennial pasture, rangeland, or forage used to feed livestock
How does PRF work?

• Uses a grid system (Grids ~ 12 x 12 Miles) to measure rainfall index and payment value

• Rainfall index: Weighted average of 4 closest weather stations to grid

• Insured value based on production practices and county base values, not on direct loss
How does PRF work?

• Guarantee from 70% to 90% of average rainfall

• Policy runs January to December

• Pick months you want to insure
  - at least two 2-month intervals
Example: Grid System for Rainfall

12 mile x 12 mile grids around Hampton, South Carolina

Grid ID: 15496
Latitude: 32.86725°
Longitude: -81.10967°
County: Hampton
State: South Carolina

Website:
https://prodwebnlb.rma.usda.gov/apps/prf
1. Insured Acres: Number of acres to be insured
   - Not all acres must be insured
   - No minimum

2. Intended Use: Haying or Grazing
   - If Intended Use is Haying:
     • Irrigation Practice: Irrigated or Non-irrigated
     • Organic Practice: Organic certified, Organic transitional or Not organic
PRF Participant Decisions

3. Choose Your Two-month Index Interval

• Jan-Feb
• Feb-March
• March-April
• April-May
• May-June
• June-July
• July-Aug
• Aug-Sept
• Sept-Oct
• Oct-Nov
• Nov-Dec
PRF Participant Decisions

4. **Coverage level**: At what percentage of average rainfall do you want the payments to kick in?

- 70, 75, 80, 85, or 90% of average rainfall
- Higher %= Higher cost, Higher chance of payout
- Subsidy levels vary with coverage levels (51-59%)
  - Lower coverage levels receive highest subsidy (59%)
5. **Productivity Factor:** Is your acreage more or less productive than other pasture acreage in your area?

- 60-150% used to adjust county base value
- Higher %= Higher cost of insurance
  - Higher payout if low rainfall
PRF-Rainfall Index Insurance Example

- 40 Acres of Hay
- Located in Hampton County
- Non Irrigated, Non Organic
- Coverage Level 85%
- Productivity Factor 100%
- Rainfall months: Feb-July
- Year: 2018

- Online decision tool:
  https://prodwebnlb.rma.usda.gov/apps/prf
PRF-Rainfall Index Insurance Example

• 40 Acres of Hay
• Percentage of value on Feb - March 30%
• Percentage of value on April – May 40%
• Percentage of value June – July 30%

• Online decision tool: https://prodwebnlnb.rma.usda.gov/apps/prf
### Protection Information

<table>
<thead>
<tr>
<th>Intended Use</th>
<th>Haying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation Practice</td>
<td>Non-Irrigated</td>
</tr>
<tr>
<td>Organic Practice</td>
<td>Not Organic</td>
</tr>
<tr>
<td>Coverage Level</td>
<td>85%</td>
</tr>
<tr>
<td>Productivity Factor</td>
<td>118%</td>
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<tr>
<td>Insurable Interest</td>
<td>100%</td>
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<tr>
<td>Insured Acres</td>
<td>40</td>
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<tr>
<td>Sample Year</td>
<td>2017</td>
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</table>

### Policy Information

<table>
<thead>
<tr>
<th>County Base Value</th>
<th>$211.00</th>
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<tbody>
<tr>
<td>Dollar Amount of Protection</td>
<td>$179.35</td>
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<tr>
<td>Total Insured Acres</td>
<td>40</td>
</tr>
<tr>
<td>Total Policy Protection</td>
<td>$7,174.00</td>
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<tr>
<td>Subsidy Level</td>
<td>55.0%</td>
</tr>
<tr>
<td>Maximum Percent of Value per Index Interval</td>
<td>50.0%</td>
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</table>
## Premium and Premium Subsidy

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Premium</th>
<th>Producer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$20.23</td>
<td>$11.24</td>
<td>$9.20</td>
</tr>
<tr>
<td></td>
<td>$817</td>
<td>$449</td>
<td>$368</td>
</tr>
<tr>
<td></td>
<td>$999</td>
<td>$549</td>
<td>$450</td>
</tr>
</tbody>
</table>
Which Months Paid in Example?

<table>
<thead>
<tr>
<th>Index Interval</th>
<th>Percent of Value (%)</th>
<th>Policy Protection Per Unit</th>
<th>Premium Rate Per $100</th>
<th>Total Premium</th>
<th>Premium Subsidy</th>
<th>Producer Premium</th>
<th>Actual Index Value</th>
<th>Estimated Indemnity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-Feb</td>
<td>$0</td>
<td></td>
<td>12.33</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>29.6</td>
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<tr>
<td>Feb-Mar</td>
<td>$2,152</td>
<td>12.82</td>
<td>$276</td>
<td>$152</td>
<td>$124</td>
<td>31.8</td>
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<tr>
<td>Mar-Apr</td>
<td>$0</td>
<td>13.58</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>49.5</td>
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<tr>
<td>Apr-May</td>
<td>$2,870</td>
<td>12.78</td>
<td>$367</td>
<td>$202</td>
<td>$165</td>
<td>161.0</td>
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<tr>
<td>May-Jun</td>
<td>$0</td>
<td>8.33</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>138.3</td>
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<tr>
<td>Jun-Jul</td>
<td>$2,152</td>
<td>8.11</td>
<td>$175</td>
<td>$96</td>
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<tr>
<td>Jul-Aug</td>
<td>$0</td>
<td>8.12</td>
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<td>$0</td>
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<td>122.2</td>
<td>$0</td>
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</table>

https://prodwebnlb.rma.usda.gov/apps/prf
What was Net Benefit in Example?

<table>
<thead>
<tr>
<th>Index Interval</th>
<th>Percent of Value (%)</th>
<th>Policy Protection Per Unit</th>
<th>Premium Rate Per $100</th>
<th>Total Premium</th>
<th>Premium Subsidy</th>
<th>Producer Premium</th>
<th>Actual Index Value</th>
<th>Estimated Indemnity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Acre</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>$20.43</td>
<td>$11.24</td>
<td>$9.20</td>
<td>N/A</td>
<td>$33.68</td>
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<tr>
<td>Total</td>
<td>40</td>
<td>$7,174</td>
<td>N/A</td>
<td>$817</td>
<td>$449</td>
<td>$368</td>
<td>N/A</td>
<td>$1,347</td>
</tr>
</tbody>
</table>

**Premium After Subsidy:** $368  
**Estimated Indemnity for 2018:** $1347  
**Net Insurance Benefit of:** $979
So...Does it work?

- Research suggests that it does insure against low rainfall periods.
- Research also suggests that the index may or may not correlate with low forage yield periods.
- BUT, overall, PRF is expected to increase returns (some due to subsidy levels).
More Information

• USDA RMA Pasture, Rangeland, Forage Insurance website:
  – https://www.rma.usda.gov/policies/pasturerangelandforage/

• Decision Support Tool:
  – https://prodwebnlab.rma.usda.gov/apps/prf
Questions?

Rma.usda.gov

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