

# Crop Report

1-Sep-2017

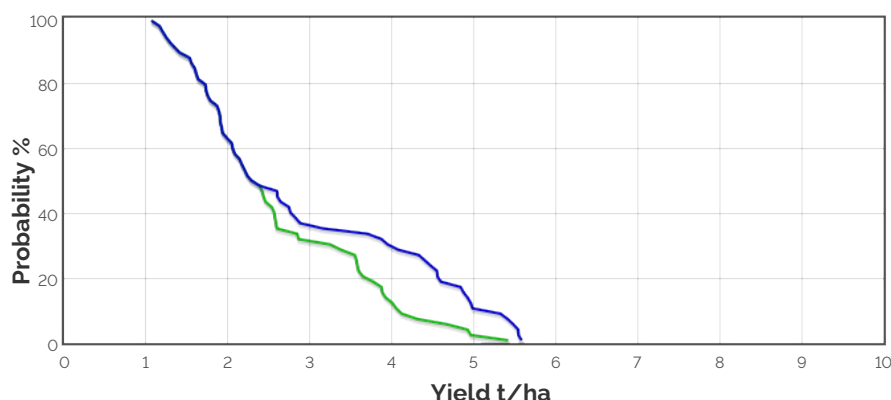
UpperNorthFS: Bottrall

Crop: Wheat  
Cultivar: EmuRock  
Sowing details: 175 plants/m<sup>2</sup> on 1-May  
Expected maturity date: 9-Nov

Paddock Details  
Initial conditions date: 24-May  
Soil: Light Clay Loam over Medium Clay  
(Morchart Plain No603-YP)  
1000 mm max rooting depth  
Stubble: 1000 kg/ha of Medic  
No till

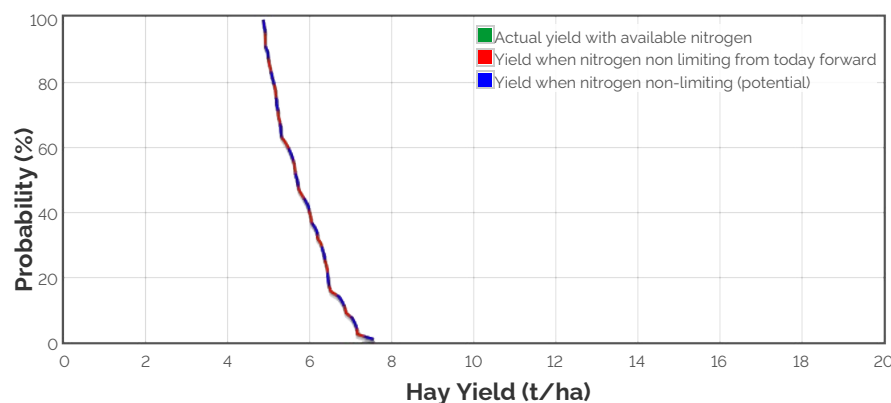
## Grain Yield Outcome

- ☒ Nitrogen limited Yield  
☒ Nitrogen limited Yield with Frost and heat Effects  
☒ Water limited Yield  
☒ Water limited Yield with Frost and heat Effects



This graph shows the probability of exceeding a range of yield outcomes this season. It takes into account your pre-season soil moisture, the weather conditions so far, soil N and agronomic inputs. The long term record from your nominated weather station is then used to simulate what would have happened from this date on in each year of the climate record. The yield results are used to produce this graph.

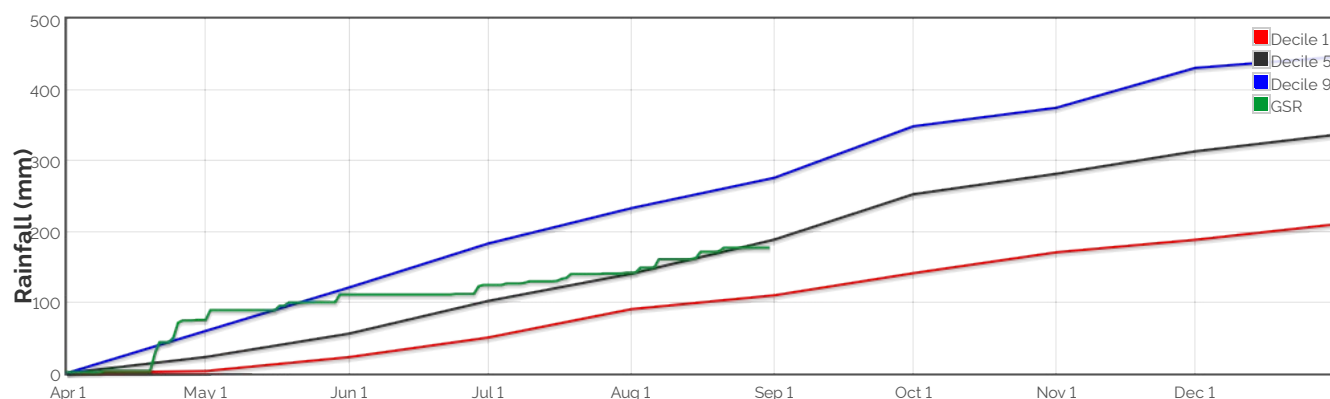
## Hay Yield Outcome



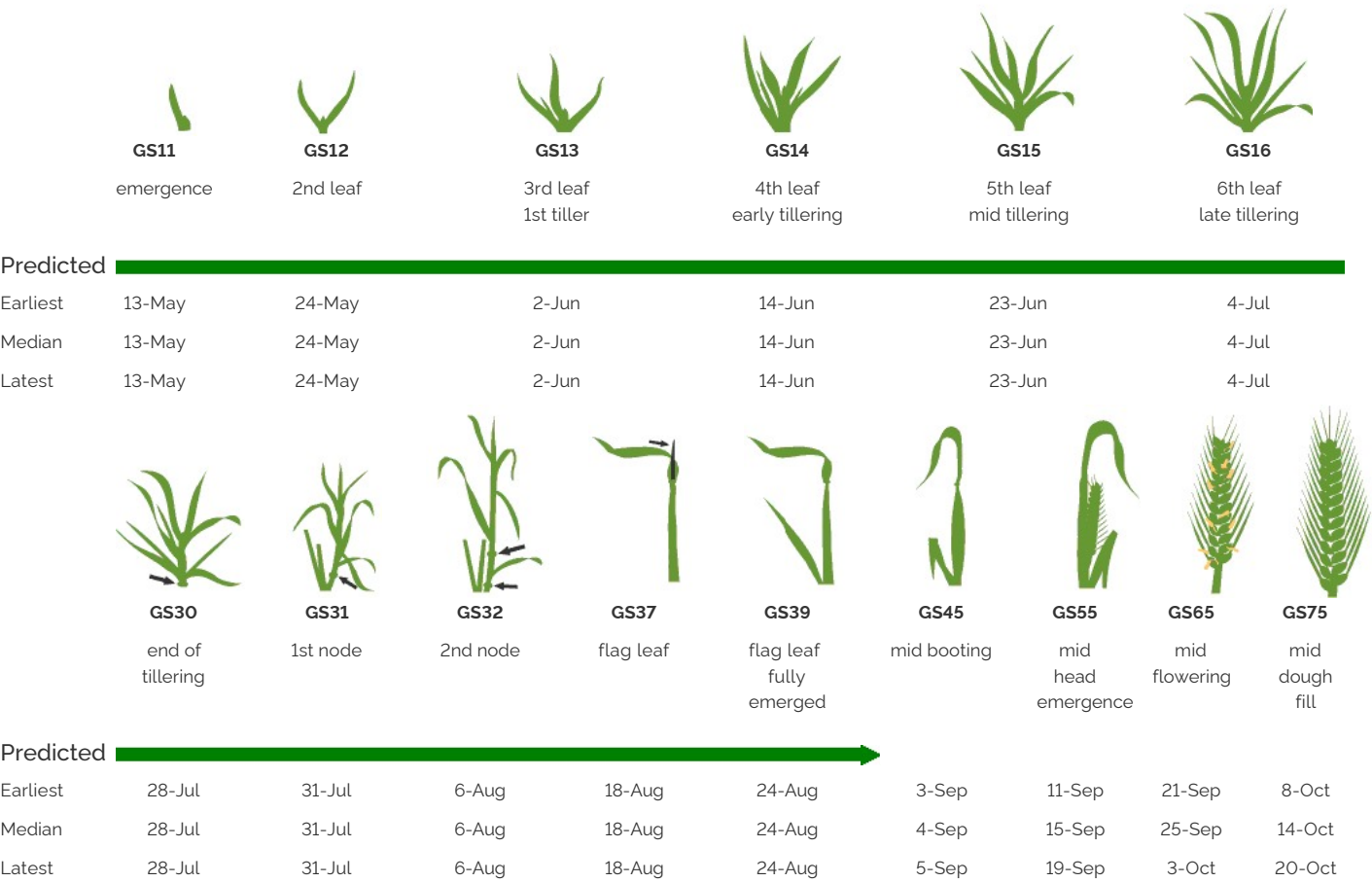
This graph shows the probability of exceeding a range of hay yield outcomes this season. It takes into account the same factors as the grain yield graph above. When above ground dry matter is below 2t/ha, hay yield is assumed to be 70% of dry matter, with a moisture content of 13%. When dry matter is between 2 and 12t/ha, hay yield is assumed to be between 70 and 75% of dry matter (sliding scale). When dry matter is above 12t/ha, hay yield is assumed to be between 75 and 80% (sliding scale).

Current dry matter: 5693kg/ha

## The Season So Far - Growing Season Rainfall Deciles



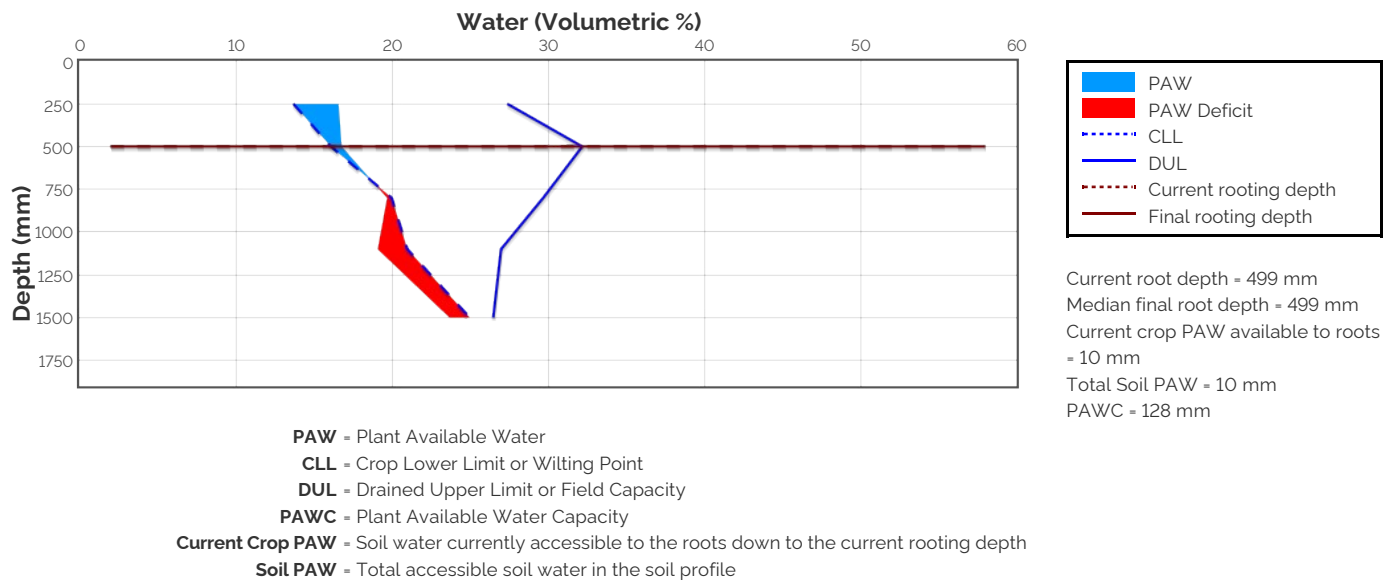
Simulated and Predicted Crop Growth Stage



Probability and Incidence of Frost and Heat Shock

| Frost damage during flowering   |                        |             |   | Heat damage during grain fill |                        |             |   |
|---|------------------------|-------------|---|-------------------------------|------------------------|-------------|---|
| Severity  | Probability            | This Season |   | Severity                      | Probability            | This Season |   |
| mild<br>2 to 0°C<br>during<br>flowering                               | <div><div></div></div> | 60%         | 0 | mild<br>32 to 34°C            | <div><div></div></div> | 34%         | 0 |
| moderate<br>0 to -2°C<br>during<br>flowering &<br>early grain<br>fill | <div><div></div></div> | 6%          | 0 | moderate<br>34 to 36°C        | <div><div></div></div> | 13%         | 0 |
| severe<br>Less than<br>-2°C during<br>flowering &<br>grain fill       | <div><div></div></div> | 0%          | 0 | severe<br>Above 36°C          | <div><div></div></div> | 8%          | 0 |

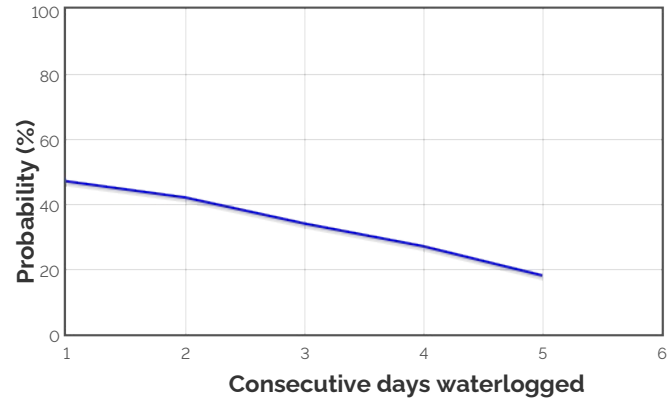
Current Distribution of PAW



Water Budget

|                             |              |
|-----------------------------|--------------|
| Initial PAW status @ 24-May | 53 mm        |
| Rainfall since 24-May       | 76.8 mm      |
| Irrigations                 |              |
| Evaporation since 24-May    | 45 mm        |
| Transpiration since 24-May  | 71 mm        |
| Deep drainage since 24-May  | 0 mm         |
| Run-off since 24-May        | 0 mm         |
| <b>Current PAW status:</b>  | <b>10 mm</b> |

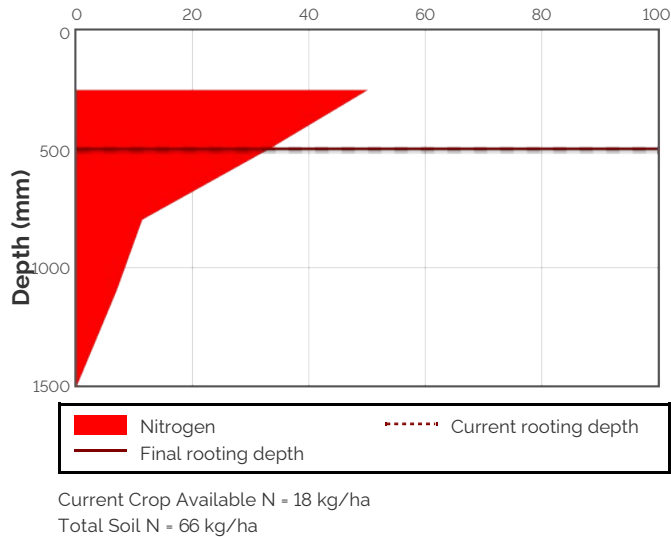
Probability of Future Waterlogging Events



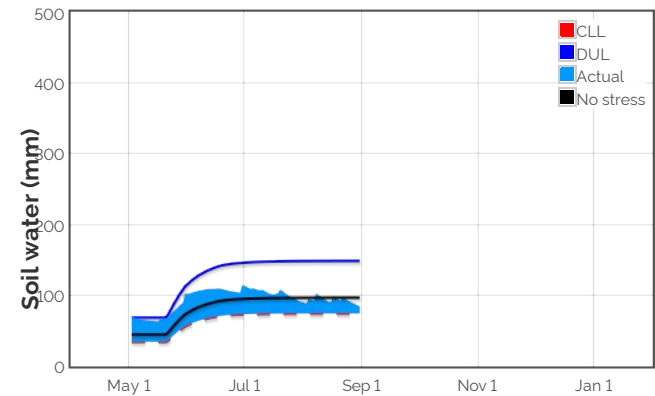
Nitrogen Budget

|                                     |                 |
|-------------------------------------|-----------------|
| Initial N status @ 24-May           | 166 kg/ha       |
| N mineralisation since 24-May       | 1 kg/ha         |
| N tie up since 24-May               | 4 kg/ha         |
| N applications                      |                 |
| <b>25-May :</b>                     | <b>18 kg/ha</b> |
| Total N in plant                    | 117 kg/ha       |
| De-nitrification since 24-May       | 0 kg/ha         |
| Leaching since 24-May               | 0 kg/ha         |
| <b>Current N status:</b>            | <b>66 kg/ha</b> |
| Median N mineralisation to maturity | = 0.656 kg/ha   |
| Median N tie up to maturity         | = 1 kg/ha       |

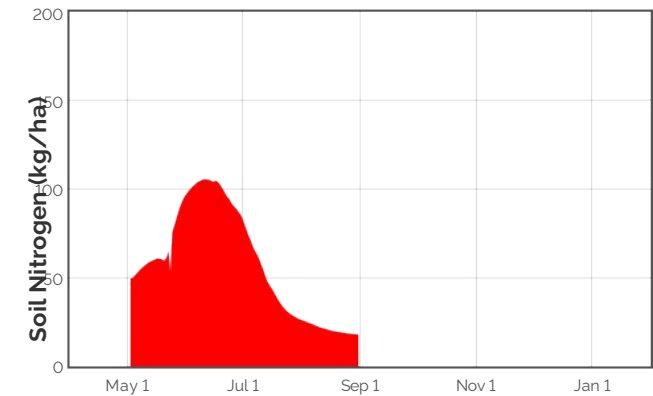
Current distribution of soil nitrogen (kg/ha)



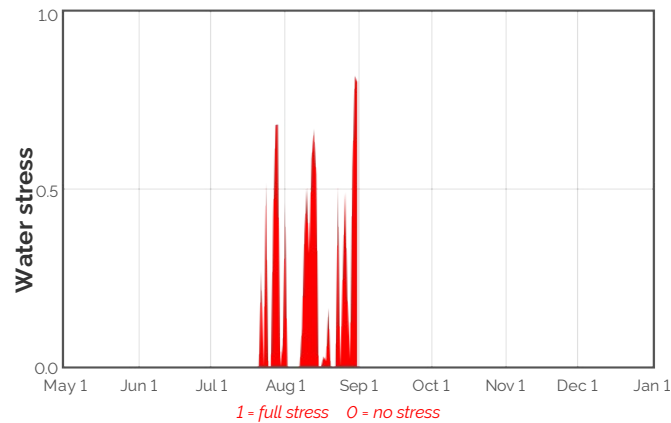
Availability of Water to Growing Roots



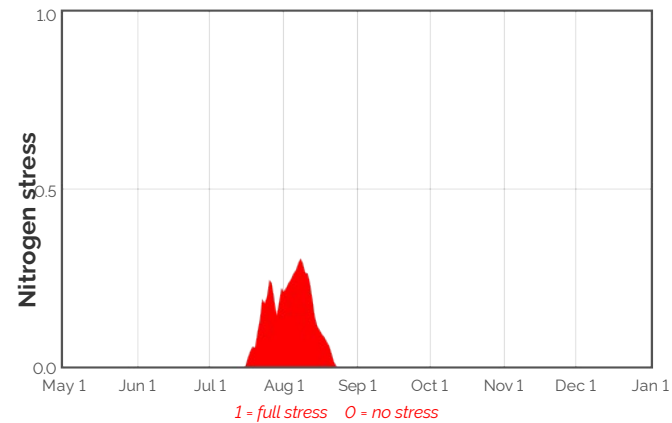
Availability of Soil Nitrogen to Growing Roots



Water Stress



Nitrogen Stress



Brief periods of mild to moderate stress do not necessarily lead to reduced yield. To see the likely impacts of additional nitrogen fertiliser rates use the Nitrogen and Nitrogen Profit reports.

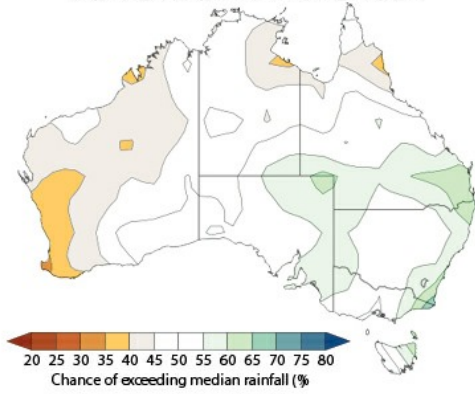
Median projected crop performance and requirements for the next 10 days assuming no rain and no added fertiliser

| Date   | Growth Stage | Evap. (mm) | Water use (mm) | N use (kg/ha) | Water avail. to roots above stress threshold (mm) | Water avail. to roots above CLL (mm) | N avail. to roots (kg/ha) | Mineralisation (kg/ha) | N tie up (kg/ha) |
|--------|--------------|------------|----------------|---------------|---|--------------------------------------|---------------------------|------------------------|------------------|
| 1-Sep  | 43.8         | 0.6        | 0.5            | 0.1           | -14.4   | 7.9                                  | 17.7                      | 0.0                    | 0.0              |
| 2-Sep  | 44.6         | 0.6        | 0.4            | 0.1           | -15.3   | 6.9                                  | 17.6                      | 0.0                    | 0.0              |
| 3-Sep  | 45.4         | 0.7        | 0.4            | 0.1           | -16.4   | 5.9                                  | 17.5                      | 0.0                    | 0.0              |
| 4-Sep  | 46.3         | 0.7        | 0.3            | 0.1           | -17.3   | 5.0                                  | 17.4                      | 0.0                    | 0.0              |
| 5-Sep  | 47.1         | 0.6        | 0.3            | 0.0           | -18.2   | 4.1                                  | 17.4                      | 0.0                    | 0.0              |
| 6-Sep  | 48.0         | 0.6        | 0.2            | 0.0           | -19.0   | 3.3                                  | 17.4                      | 0.0                    | 0.0              |
| 7-Sep  | 48.8         | 0.5        | 0.2            | 0.0           | -19.6   | 2.7                                  | 17.3                      | 0.0                    | 0.0              |
| 8-Sep  | 49.7         | 0.3        | 0.1            | 0.0           | -20.1   | 2.2                                  | 17.3                      | 0.0                    | 0.0              |
| 9-Sep  | 50.7         | 0.3        | 0.1            | 0.0           | -20.5   | 1.8                                  | 17.3                      | 0.0                    | 0.0              |
| 10-Sep | 51.6         | 0.3        | 0.1            | 0.0           | -20.9   | 1.4                                  | 17.2                      | 0.0                    | 0.0              |

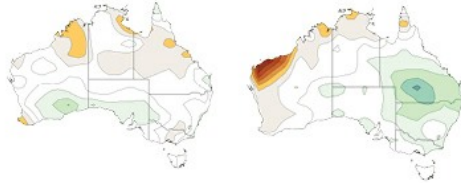
The water available to roots above the stress threshold is the amount of PAW (mm) above one third of the total water holding capacity of this soil. If the water values are below this stress threshold the water available to roots above the stress threshold will be negative.

# Bureau of Meteorology Seasonal and Monthly Outlooks

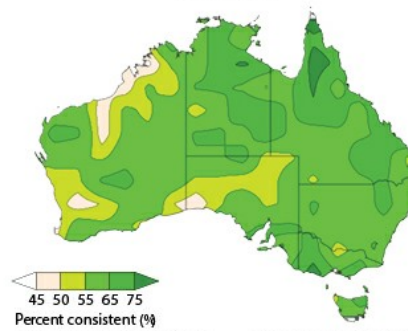
## 3 MONTH CLIMATE OUTLOOK FROM SEPTEMBER TO NOVEMBER



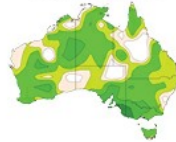
## SEPTEMBER CLIMATE OUTLOOK      OCTOBER CLIMATE OUTLOOK



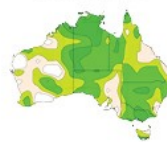
## PAST ACCURACY FROM SEPTEMBER TO NOVEMBER



## PAST ACCURACY FOR SEPTEMBER



## PAST ACCURACY FOR OCTOBER



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