Ground Cover and Woody Vegetation Report

AFM Demo Farm - 2024-11-28

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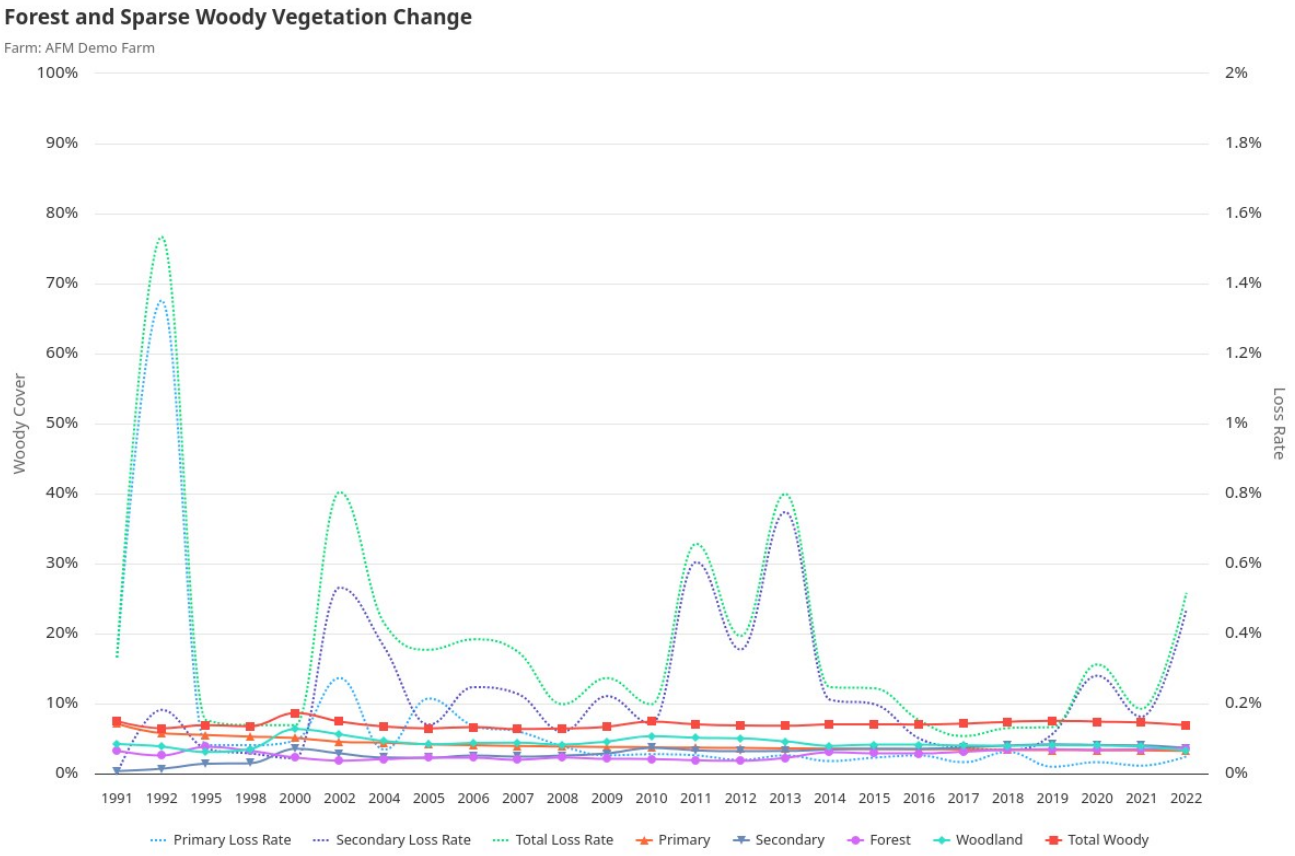
Forest and Sparse Woody Vegetation Change

Forest is defined as woody vegetation with a minimum 20% canopy cover (CC), potentially reaching 2 metres high and a minimum area of 0.2 hectares. Sparse woody is defined as woody vegetation with a canopy cover between 5-19%. Primary forest (>=20%CC) or woodland (5-19%CC) is defined as woody vegetation present in 1988. Secondary forest or woodland is defined as woody vegetation that has been disturbed at any time post-1988. The 30m resolution forest and sparse woody vegetation change products were derived from data provided by the Australian Government: National Forest and Sparse Woody Vegetation Data (Version 5.0 - 2020 Release).

Figure 1. below provides a summary of the changes in the extent (as a percentage of the reporting area) of woody vegetation types (left axis) and any losses over time (as a percentage of the woody vegetation area).

Figure 1.



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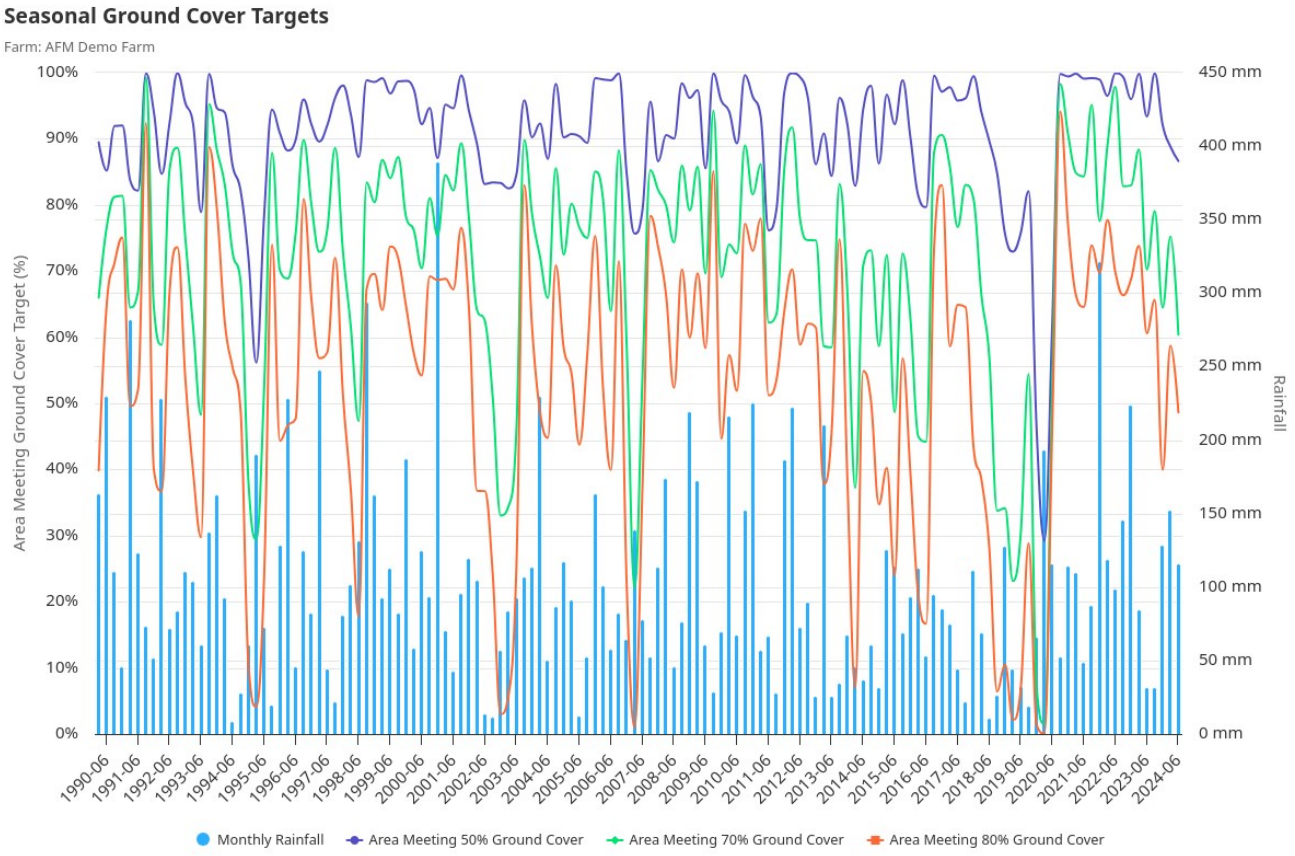
Seasonal Ground Cover Targets

The seasonal fractional ground cover products provide estimates of the total ground cover (green and non-green) for each 3-month calendar season (summer, autumn, winter, spring). The estimates of ground cover are restricted to areas of <60% woody vegetation. The information products are derived from fractional ground cover data produced by the Queensland's Remote Sensing Centre and made available through TERN AusCover..

Seasonal rainfall is derived from gridded rainfall data provided by the Bureau of Meteorology.

Figure 2. below provides a summary of the proportion of the reporting area achieving a particular ground cover target over time. Ground cover targets of 50%, 70% and 80% are included in the analyses. For example, if the 70% ground cover target (green line) was 55% for 2008-06 it would mean that for the winter of 2008, 55% of the reporting area was achieving the target of 70% ground cover.

Figure 2.



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Local Ground Cover Benchmarking

Seasonal ground cover is highly influenced by rainfall, land types, land use and land management. Comparing the seasonal ground cover of a farm to neighbouring farms (with similar land types, land use and rainfall) helps to reduce the influence of regional climate variability on any comparisons. Differences between the ground cover levels on the selected farm and the surrounding farms may then be assumed to be due to land and grazing management for similar land types.

Figure 3. compares the median (50th percentile) seasonal ground cover of the farm (reporting area) to the 25th and 75th (orange band) and the 5th and 95th percentile (maroon) seasonal ground cover of selected reference area. If the blue line (the reporting area or farm) is near the 75th percentile (of the reference area) it means the ground cover is higher than 75% of the selected reference area.

Figure 3.

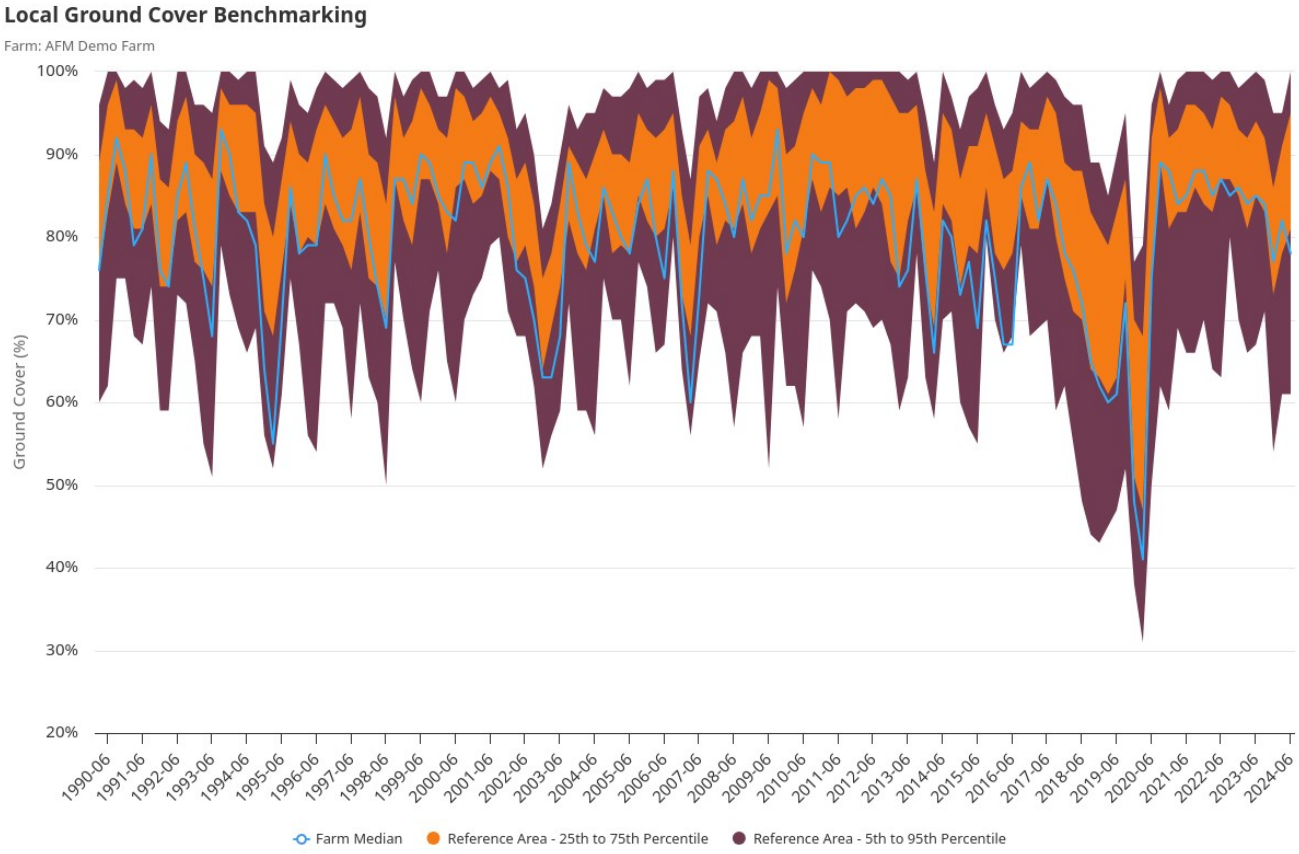

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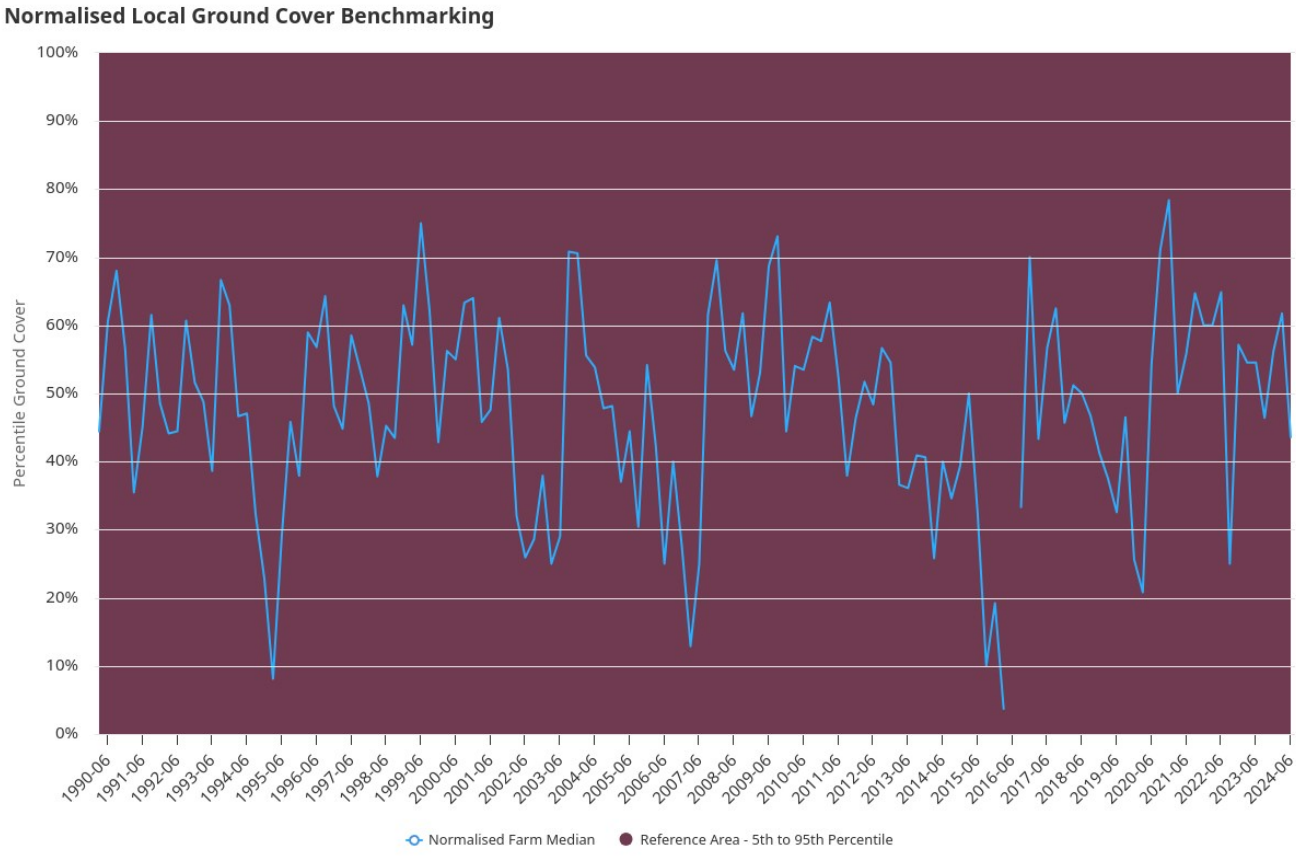
Figure 4. normalises the data and compares the median seasonal ground cover of the reporting area to the selected reference area as a percentile rank over time. The 5th and 95th seasonal ground cover percentiles for the reference area are represented as 0% and 100% in the figure. If the median seasonal ground cover of the reporting area is higher than the reference area it will be above the 50th percentile line. It is important to consider actual ground cover levels (figure 3.) as well as the percentile rank. For instance, ground cover levels could be high across the neighbouring reference area, but the reporting area could be in a lower percentile range, showing that the cover levels for the reporting area are generally high, but are lower in comparison to the reference area.

Figure 4.



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Regional Ground Cover Benchmarking

The regional ground cover benchmarking allows the user to compare a farm or reporting area to the broader district or region. For this comparison we use mapping of Australia's Bioregions. The latest version, IBRA7 , classifies Australia's landscapes into 89 large geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. The 89 bioregions are further refined to form 419 subregions which are more localised and homogenous geomorphological units in each bioregion. The bioregions and subregions are defined in the IBRA7 bioregional map.

Figure 5. compares the median (50th percentile) seasonal ground cover of the farm (reporting area) to the 25th and 75th (orange band) and the 5th and 95th percentile (maroon) seasonal ground cover of the surrounding IBRA Subregion. If the blue line (the reporting area or farm) is near the 75th percentile (of the reference area) it means the ground cover is higher than 75% of the surrounding subregion.

Figure 5.

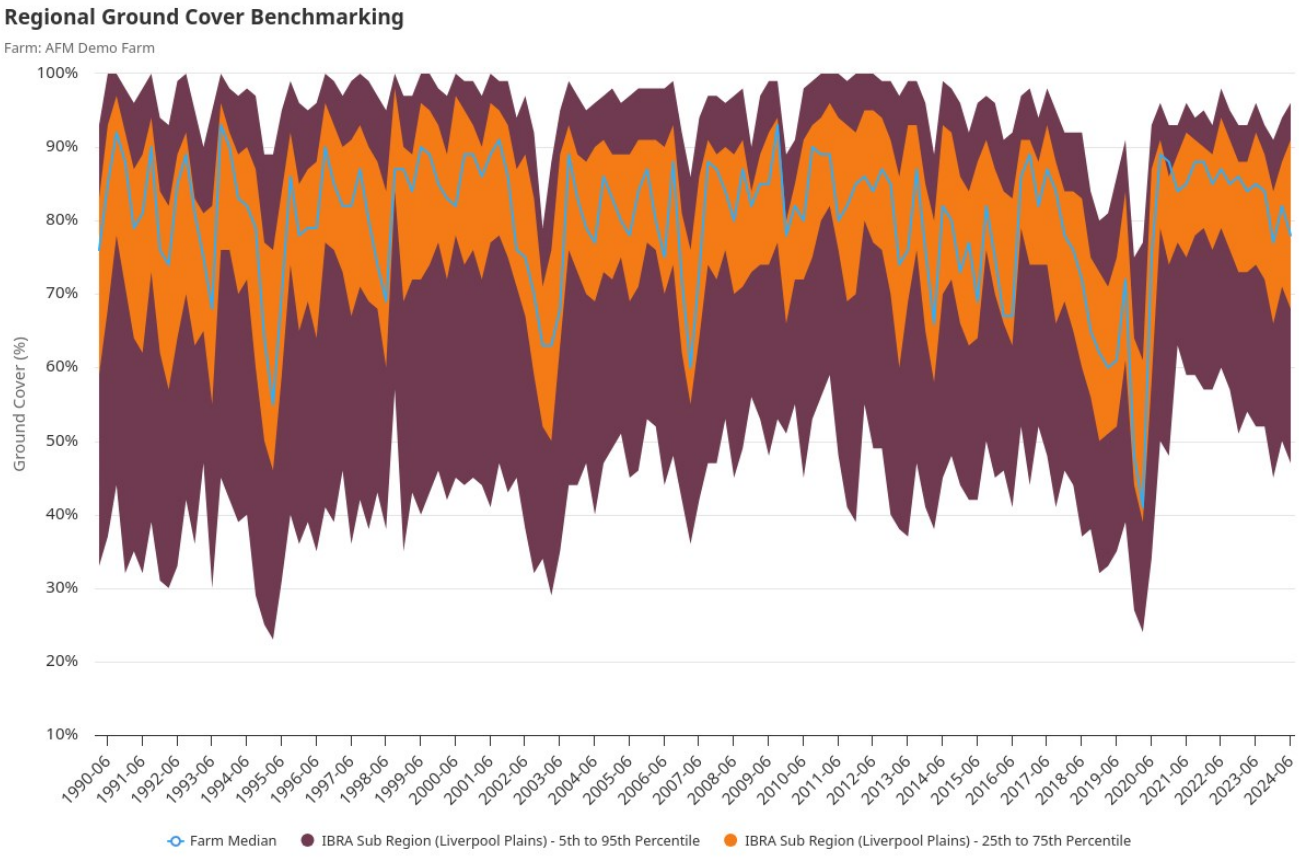
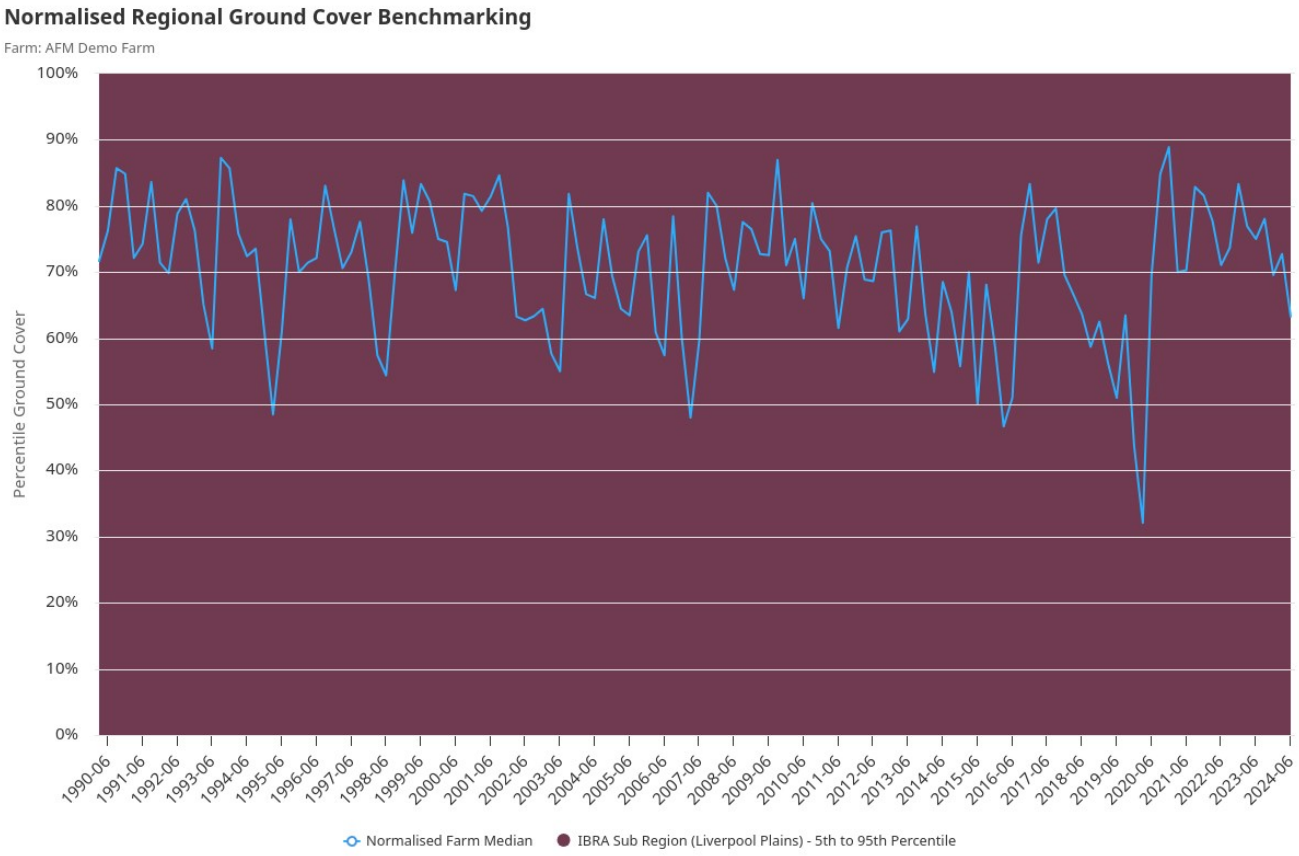


Figure 6. normalises the data and compares the median seasonal ground cover of the reporting area to the surrounding subregion as a percentile rank over time. The 5th and 95th seasonal ground cover percentiles for the surrounding subregion are represented as 0% and 100% in the figure. If the median seasonal ground cover of the reporting area is higher than the surrounding subregion it will be above the 50th percentile line. It is important to consider actual ground cover levels (figure 5.) as well as the percentile rank. For instance, ground cover levels could be high across the surrounding subregion but the reporting area could be in a lower percentile range, showing that the cover levels for the reporting area are generally high, but are lower in comparison to the surrounding subregion.

Figure 6.



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Seasonal Ground Cover Percentiles

Figure 7 below shows the seasonal ground cover levels achieved based on area percentiles of the farm or reporting area. i.e the 10th percentile is the median seasonal ground cover achieved for 10% of the area and the 50th percentile (median) is the ground cover achieved over 50% of the area. Monthly rainfall data is also provided.

Figure 7.