

Efficient maintenance with growth rate management: case studies

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Normal clipping volume

One Bucket at a Time

A guide to rapid measurement of clipping volume with various permutations, applications, and implications

Micah Woods

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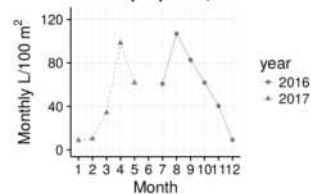
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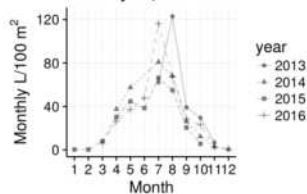
7 Clipping volume variation from green to green 33



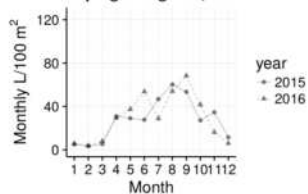
seashore paspalum, 21° N



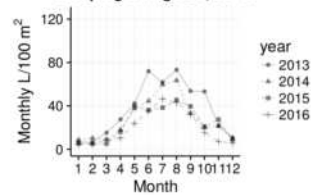
zoysia, 33° N



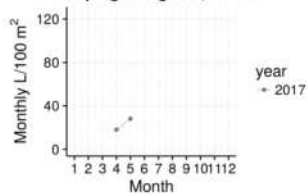
creeping bentgrass, 35° N



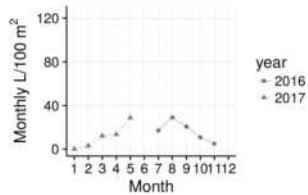
creeping bentgrass, 36° N



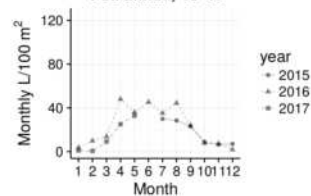
creeping bentgrass, 45° N



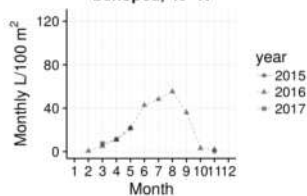
fine fescue mix, 47° N



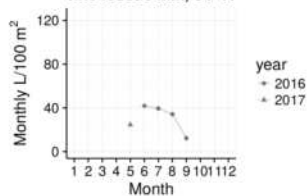
Poa annua, 48° N



bent/poa, 49° N



fine fescue mix, 64° N



Mower consistency









Measuring time



Video time stamp: 1 second



Video time stamp: 4 seconds



Video time stamp: 10 seconds



ClipVol and Clipping Yield





Estimate dry mass as 6.3% of the fresh clipvol



I estimate 1 L of fresh clippings, when dried, will have a mass of 63 g.

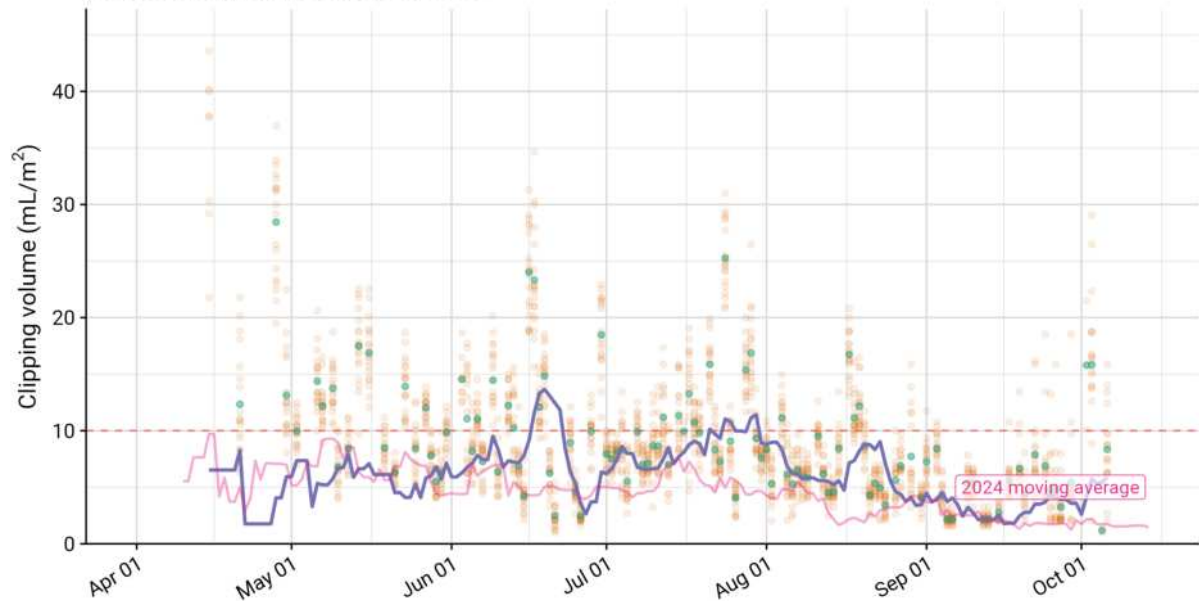
We can predict approximate clipping yield from N rate. If we apply 10 kg N/ha (1 g N/m²), grass may take up about 60% of that. STERF suggests 3% N in clippings is sufficient.

If the grass takes up 6 kg N/ha and has 3% N in the leaves, we have 20 g clippings per m². And 20 g of dried clippings may have a volume of about 320 mL.

Annual growth

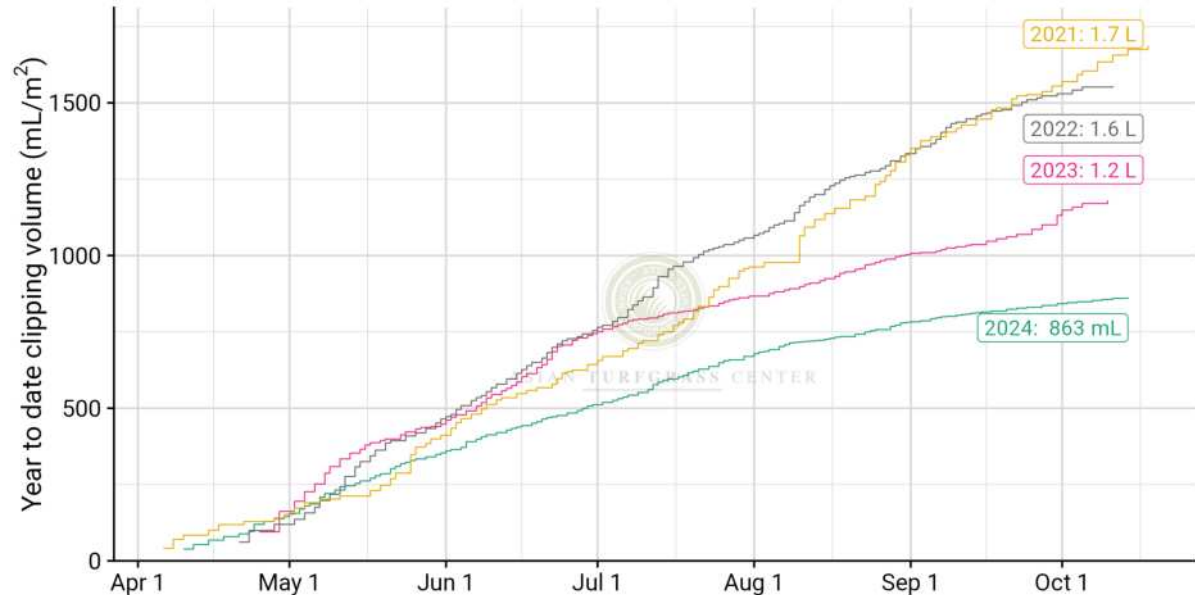


Morning clipping volume in 2025



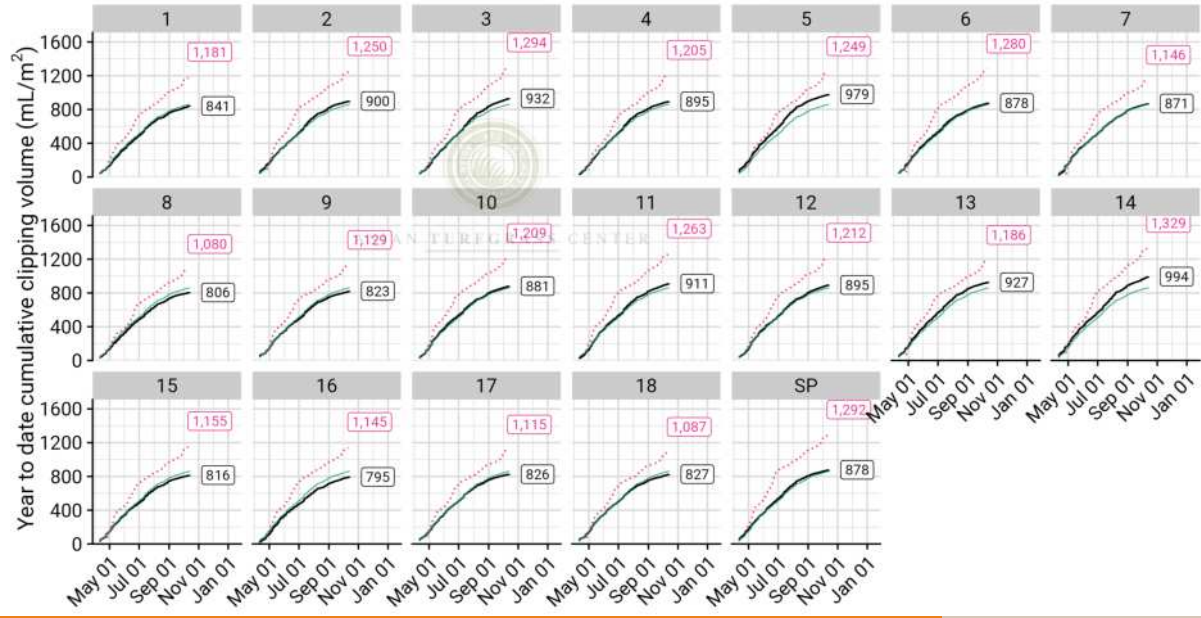
Cumulative clipping volume

Hazeltine National Golf Club



Cumulative clipping volume green by green

2024 in black, 2023 in pink, and the 2024 average across all holes in green.

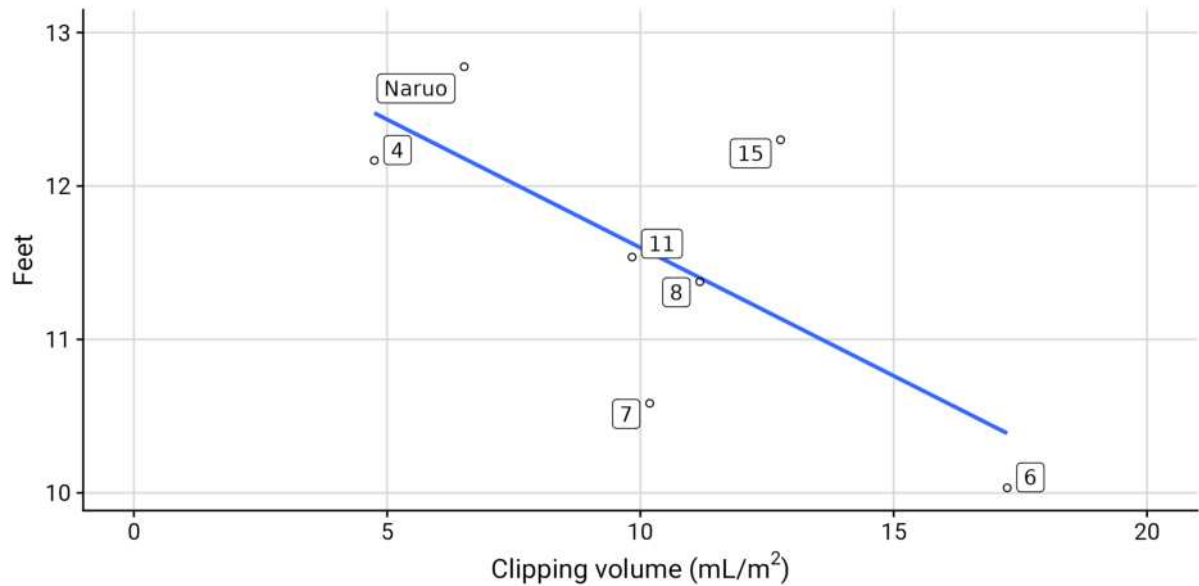


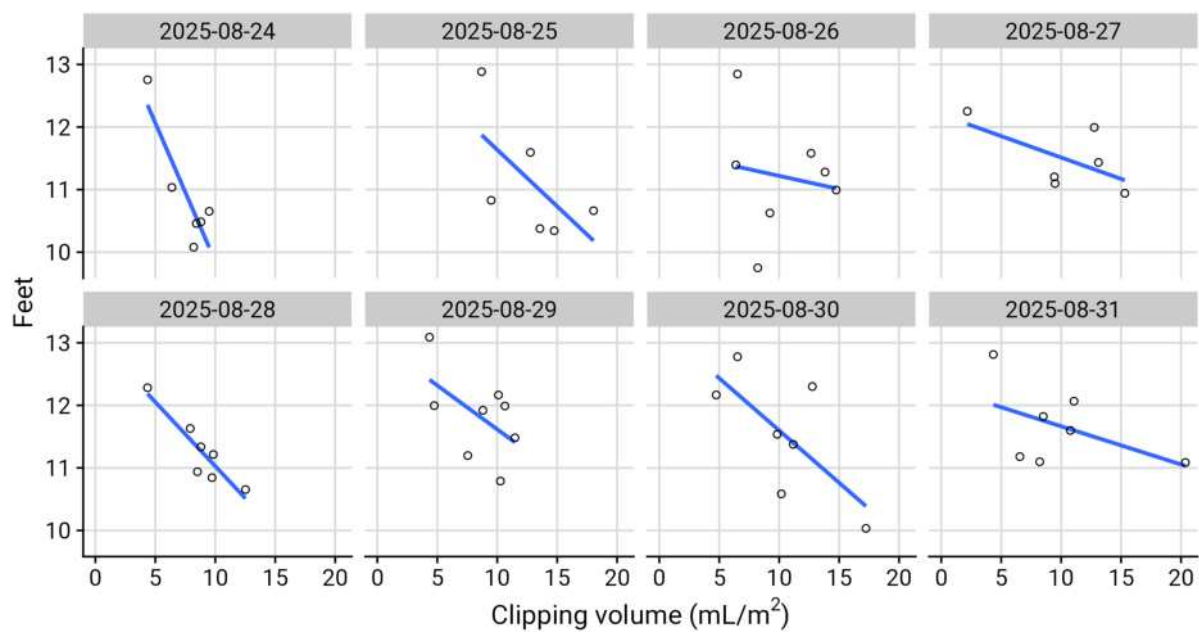


Green speed

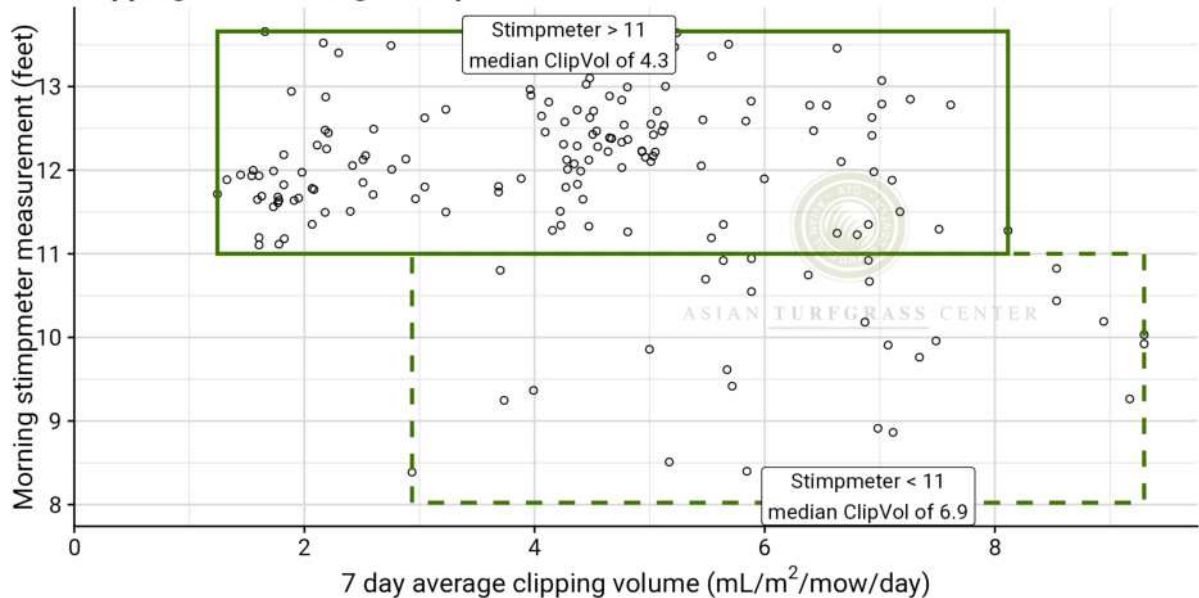


2025-08-30



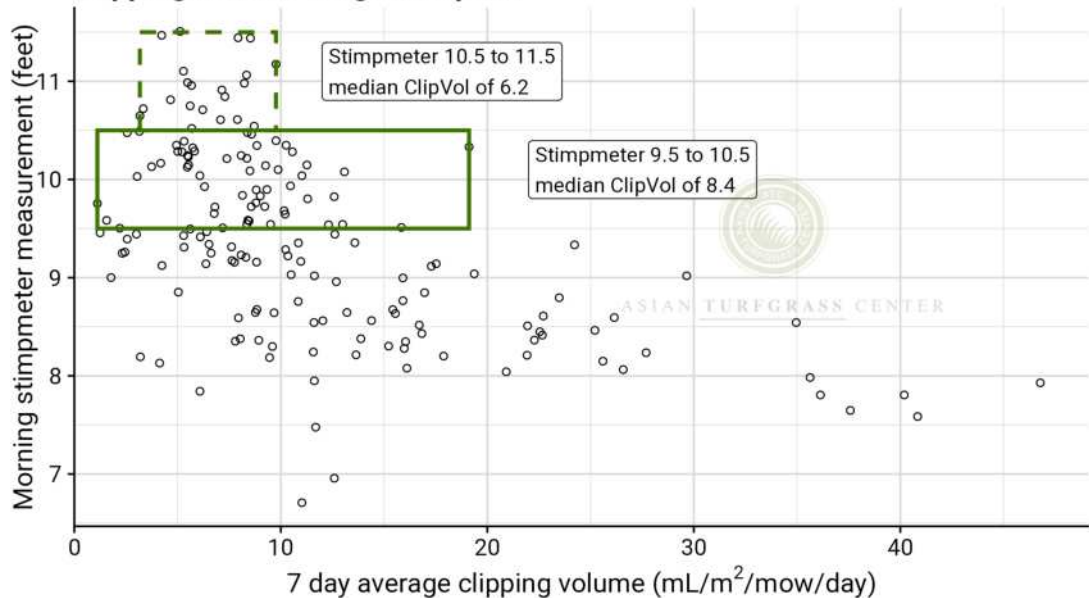


Clipping volume vs. green speed



Data from 2024 measurements at a single golf course

Clipping volume vs. green speed



Data from two years of measurements at a single golf course

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