Raman Spectroscopy Enables Non-Invasive and Confirmatory Diagnostics of Aluminum and Iron Toxicities in Rice

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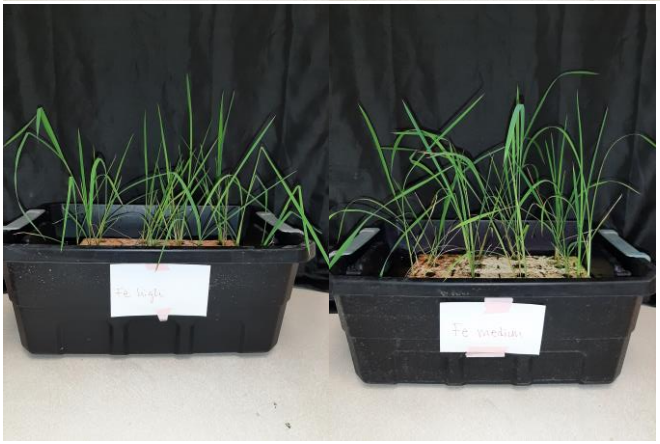
Highlights: We show that Raman spectroscopy can be used for confirmatory pre-symptomatic diagnostics of high and medium levels of iron and aluminum toxicities in rice.

Supporting Information

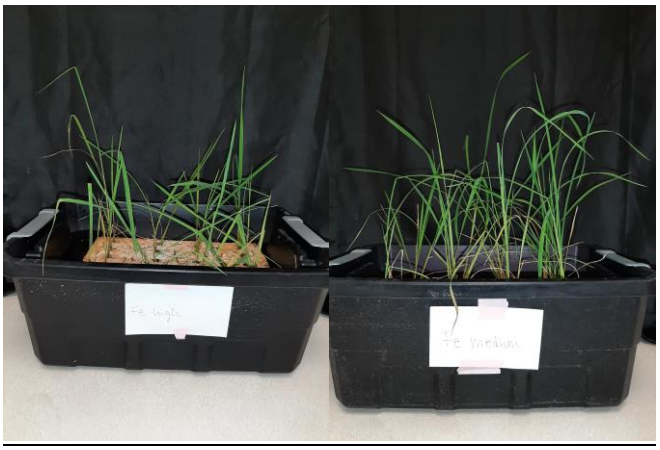
*****Note: Nitrogen High and Medium images are excluded for the relevance of the supplementary material.

Photographs

Day 2



Day 4



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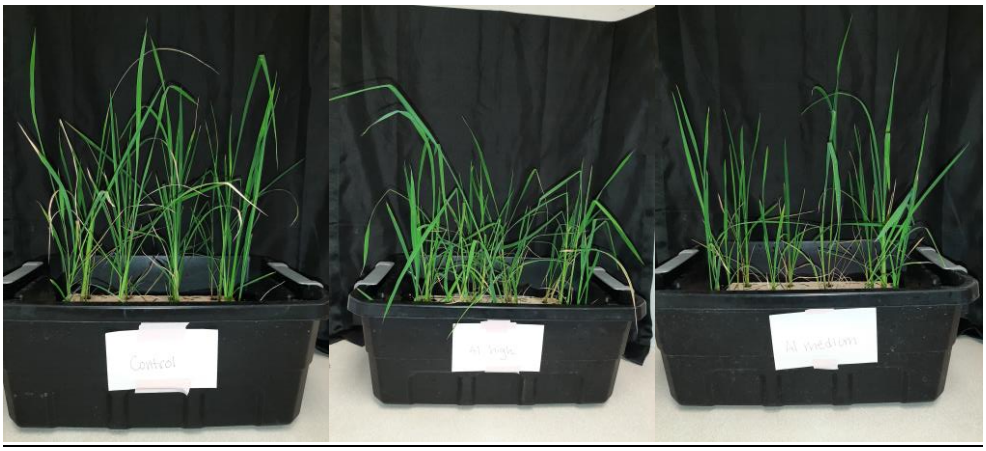

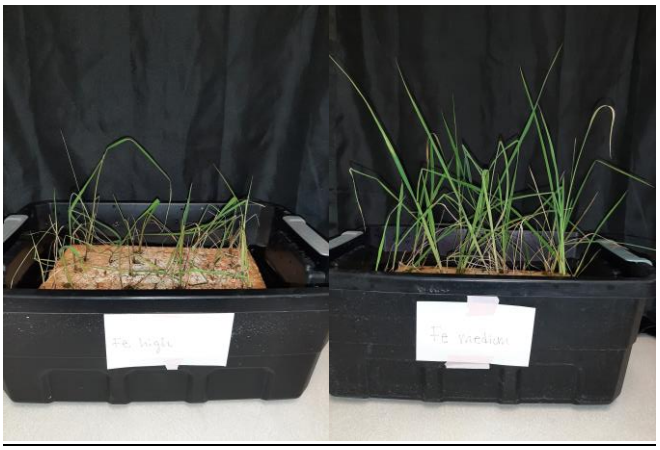

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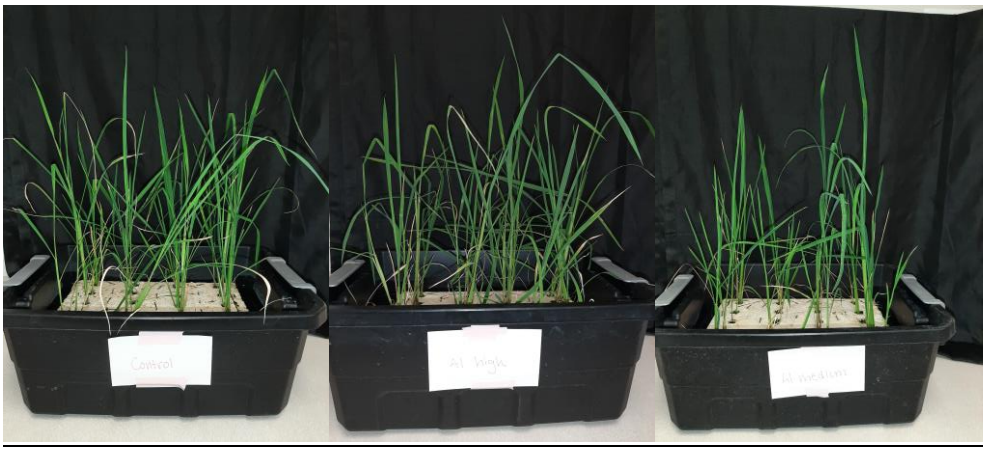

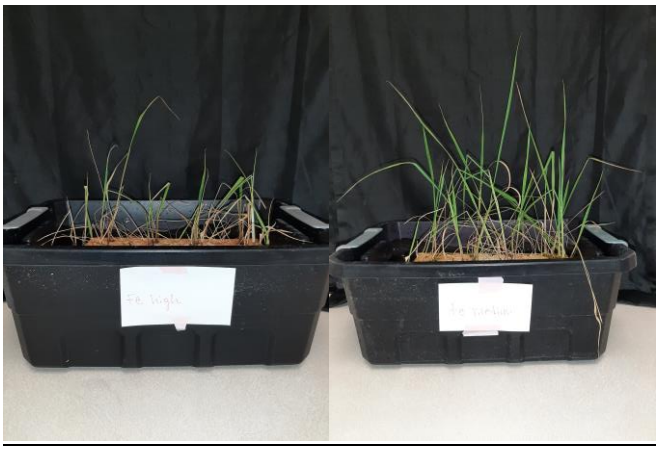

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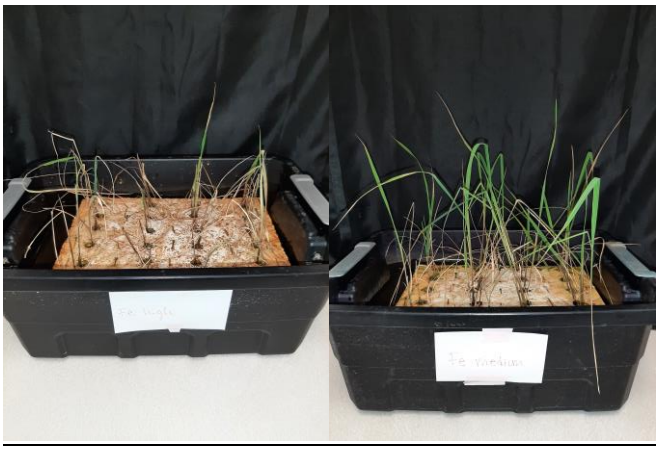

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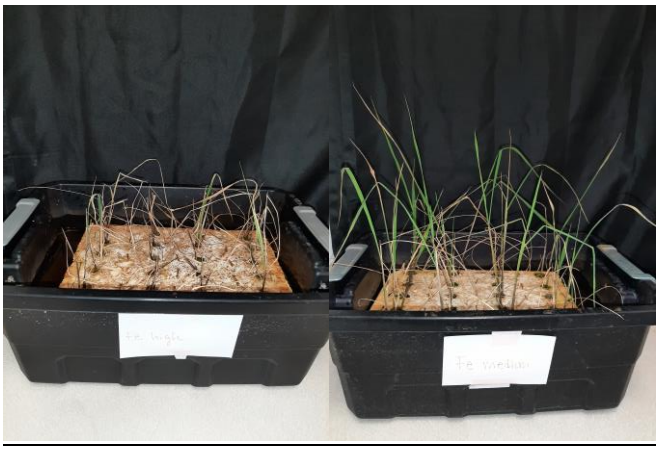
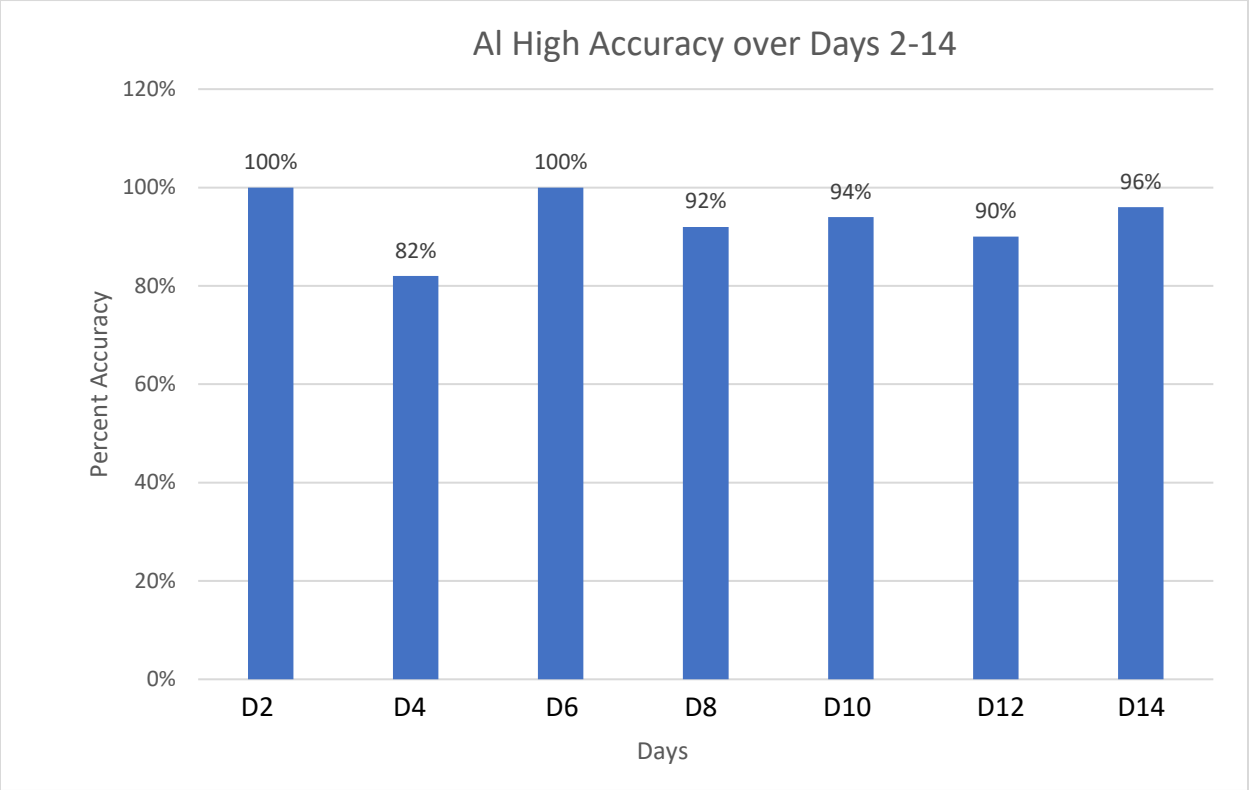
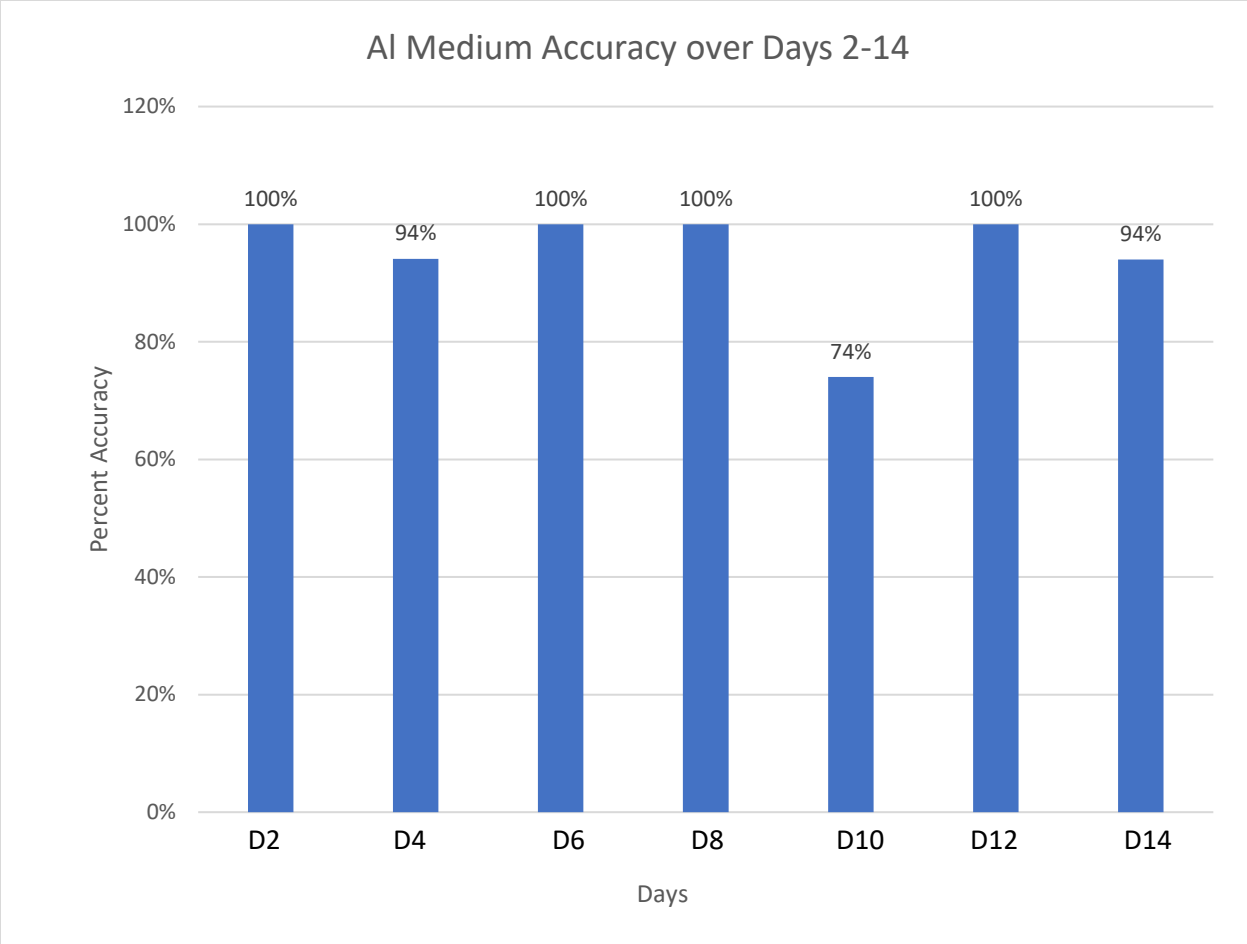


Day 14

Figures


Al High Accuracy over Days 2-14
120%
100%
80%
60%
40%
20%
0%
Percent Accuracy
100%
82%
100%
92%
94%
90%
96%
D2
D4
D6
D8
D10
D12
D14
Days


Al Medium Accuracy over Days 2-14
120%
100%
80%
60%
40%
20%
0%
Percent Accuracy
100%
94%
100%
100%
74%
100%
94%
D2
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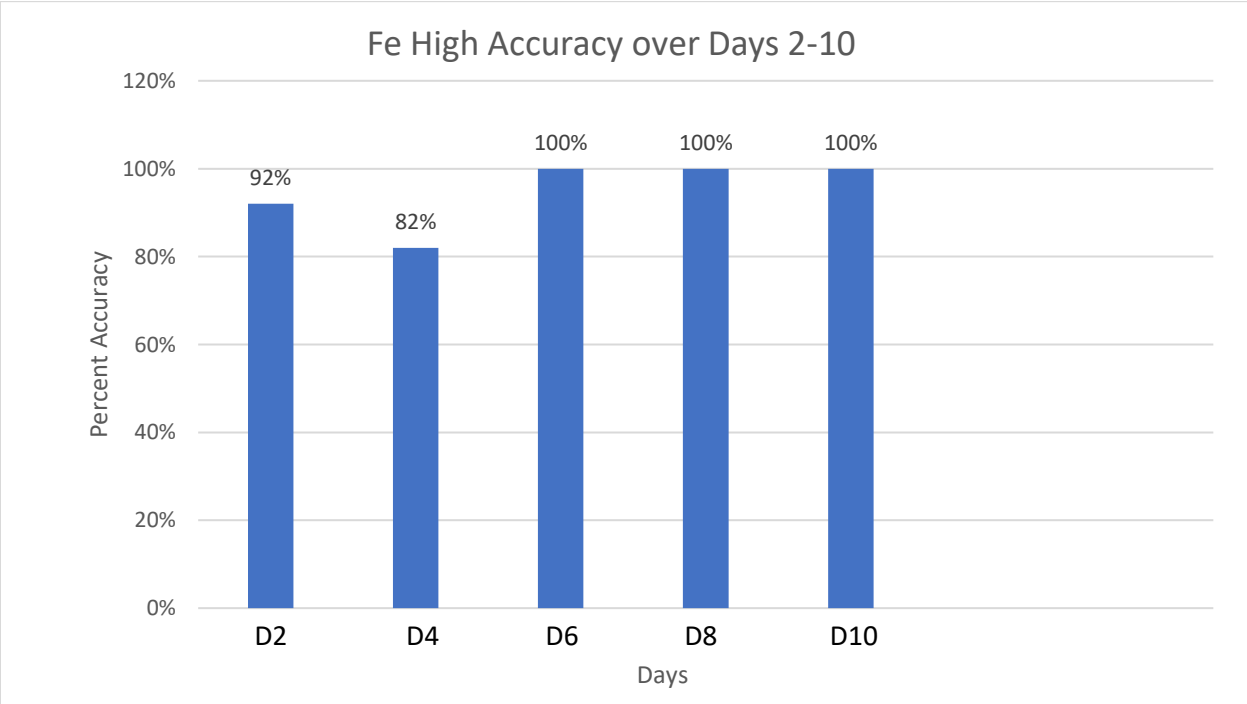
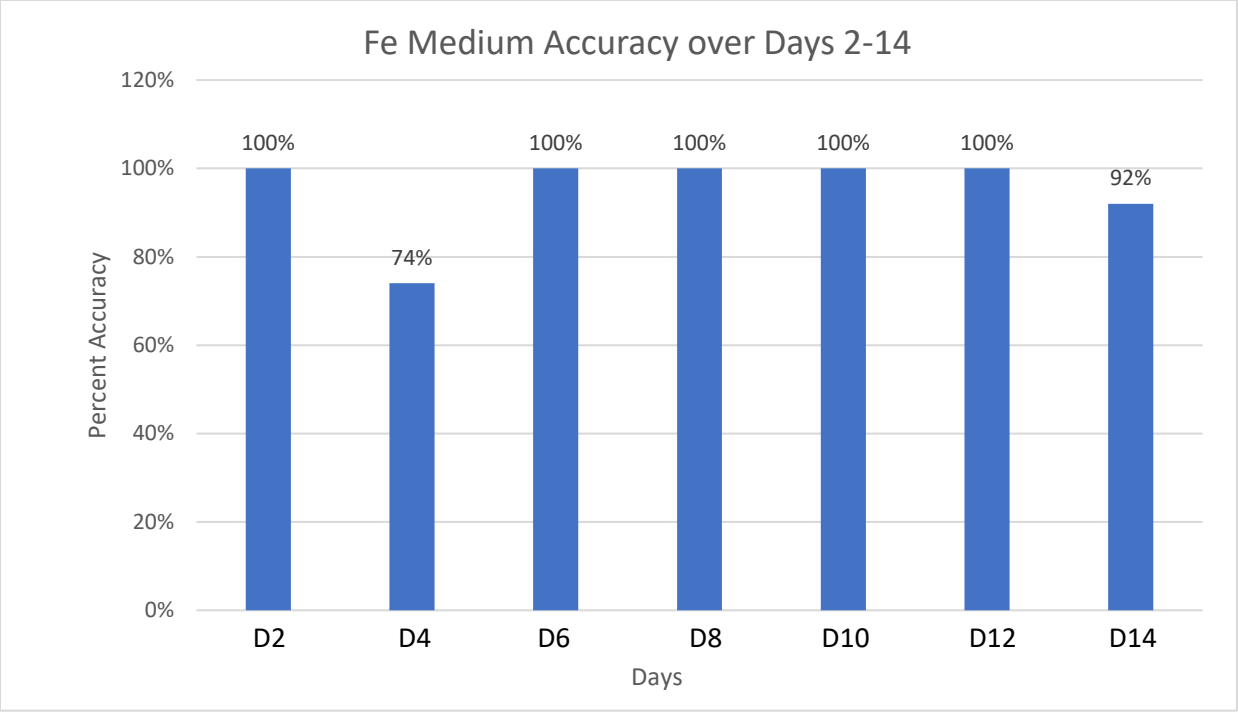
D10
D12
D14
Days


Fe High Accuracy over Days 2-10
120%
100%
80%
60%
40%
20%
0%
Percent Accuracy
92%
82%
100%
100%
100%
D2
D4
D6
D8
D10
Days


Fe Medium Accuracy over Days 2-14
120%
100%
80%
60%
40%
20%
0%
Percent Accuracy
100%
74%
100%
100%
100%
100%
92%
D2
D4
D6
D8
D10
D12
D14
Days