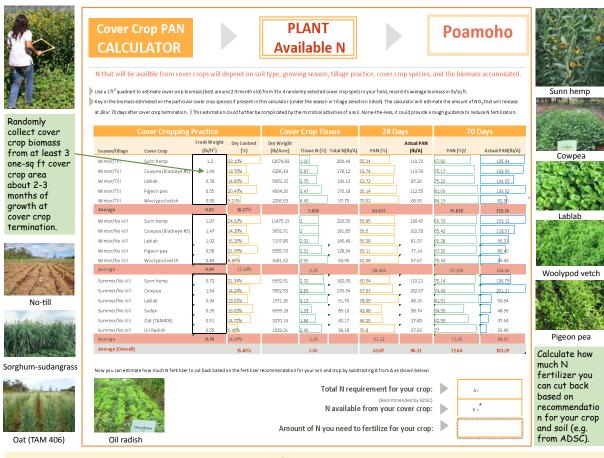
Cover Crop Plant Available Nitrogen (PAN) Calculator

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Introduction

Leguminous cover crops can contribute significant amount of nitrogen to crop production. However, farmers need a better tool to accurately estimate the nitrogen contribution from legumes so as to precisely reduce fertilizer rates. A simple calculator to address this issue was developed for Idaho and Oregon farmers with high success rate (http://smallfarms.oregonstate.edu/calculator). This project is adapting this concept for tropical climates and soil types in the Pacific Islands. Although cover crops can fix or accumulate nitrogen (N) in plant tissues, not all the N in the tissue will be released into plant available form. Plant Available Nitrogen (PAN) from the cover crop is depend on climate conditions, soil types, microbial activities in your soil, cover crop species, farming practices (till vs no-till) and time after cover crop termination. Much more locations in Hawaii need to be assayed and added to this data base. This poster only show one location as a sample on how this calculator work. This calculator is available in Excel Spread Sheet and can be available upon request.



Summary

- ✓ Although Plant Available N (PAN) release rate (%) at 70 days after cover crop termination (green bars on second last column) were similar among all legumes and oil radish tested, actual PAN released (blue bars) varied mainly due to the biomass generated. Thus, it is a good practice for farmers to estimate the cover crop biomass.
- Graminaceous cover crops generally had lower PAN%, resulted in lower actual PAN regardless of the biomass generated.
- Majority of the PAN were released during the first 28 days after cover crop termination, thus additional fertilizer should be added there after.

Acknowledgement

This project is supported in part by NRCS CIG grant (project number 69-3A75-14-231) and in part by NIFA CRATE program (project number 2013-04774). We thank the University of Hawaii, Poamoho Experiment Station Farm Crew, D. Meyer, G. Nagai, CTAHR Cooperative Extension Service Jari Sugano, Jensen Uyeda and Steve Fukuda, NRCS in Hawaii, Nick Andrew and Dan Sullivan from Oregon State University.

