

Cover Crop Calculator for Hawaii

<http://www.ctahr.hawaii.edu/WangKH/cover-crop.html>.



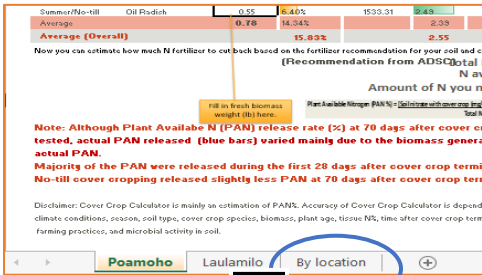
1

1. Two weeks prior to germination of your cover crop, collect fresh cover crop biomass using 1-ft² quadrant. Dry the biomass under sun and weigh. Estimate cover crop dry biomass (lbs/ft²).

2
Tissue N%



2. Send dried cover crop tissues to analyze for tissue N content (%) [e.g. ADSC* at University of Hawaii or other equivalent labs].



3

3. Find a location in Cover Crop Calculator at <http://www.ctahr.hawaii.edu/WangKH/cover-crop.html>. Go to the 3rd data sheet that labeled "By Location", find a location close to your area.

4. Key in the dry weight and tissue N (%) in the designated columns. You will obtain the estimated plant available nitrogen (PAN) rate (%) for 28 and 70 days after cover crop was incorporated into the soil.

5. The calculator estimates the actual PAN for 28 and 70 days after cover crop was incorporated into the soil.

6. The estimated actual PAN is the amount of N fertilizer you can cut back.

Cover Crop PAN CALCULATOR				PLANT Available N		By location	
Location	Cover Crop Tissue		Total N (lb/A)	28 Days		70 Days	
	Dry Weight (lb/ft ²)	Dry Weight (lb/Acre)		Actual PAN (lb/A)	PAN (%)	Actual PAN (lb/A)	PAN (%)
Poamoho	0.15	6534	131	72	55.4	66.7	87.16356
Waimea	0.15	6534	131	50	38.31	48.77	63.732636
Kula	0.15	6534	131	51	39.342	54.518	71.2441224
Hoolehua	0.15	6534	131	39	30.179	39.912	52.1570016

Total N requirement for your crop:	A =	180
(Recommended by ADSC)		
N available from your cover crop:	B =	107.42
Amount of N you need to fertilize for your crop:	A-B =	72.58

7. For maximum nutrients recovery, plant cash crop soon after termination of the cover crop unless the cover crop possesses allelopathic (suppressive) effect against the cash crop. If allelopathic effect occurs, simply delay one week to direct seed small seeded cash crop. Transplanting of cash crops will avoid the allelopathic effect. If additional fertilizer is needed to fulfill the recommended N rate for the cash crop, then apply the fertilizer at least one month after termination of cover crop, as most of the PAN is released during the first 28 days after cover crop termination. Various factors can affect PAN release rate from a cover crop. Please see more information from:

http://www.ctahr.hawaii.edu/WangKH/Downloads/2016_Cover_crop_calculator_Updates.pdf

This project is in parts supported by NRCS CIG 69-3A75-14-231, NIFA AFRI 2013-04774, and University of Hawaii at Manoa, College of Tropical Agriculture and Human Resources (CTAHR) Hatch 9022H