

Horticulture 300: Crop Production Recitation Feb 9, 2012

Organic Fertilizer & Cover Crop Calculator Exercises

A version of the OSU Organic Fertilizer & Cover Crop Calculator has been set up with realistic guaranteed analyses and costs for fertilizers and cover crops. Use the calculator to answer the following questions.

1. Tom grows 30 acres of organic vegetables and just got a visit from his friend Jim who sells organic fertilizers. Jim told him about a new blended organic fertilizer with 7% total N, 3% P₂O₅ and 3% K₂O. It is 95% dry matter and costs \$800/ton.
 - a. In one field he needs plant-available nitrogen (PAN) only, would you recommend he buy this new fertilizer for that field, why or why not?

 - b. In another field he needs PAN, P and K in about the same portions this fertilizer contains, would you recommend he buy it for that field, why or why not?

2. Tom is planting 1 acre of organic cucumbers. After looking at his soil test results and the fertilizer guide he calculates that he needs 100 lbs of PAN, 50 lbs of P₂O₅ and 50 lbs of K₂O. What is the cheapest fertilizer program that meets or exceeds these requirements and how much does it cost (include the cost of application)? List the application rates, nutrients provided and total cost of the programs you compare.

3. In mid-September Tom seeded cereal rye (30 lbs/ac) and common vetch (50 lbs/ac) cover crop into last year's lettuce field. He did not need to irrigate at establishment, and got a thick stand. In late April he cut four 2' x 2' quadrats to ground level. The cover crop foliage weighed 8.5 lbs and lab analysis showed that it had 2.9% total N and 18% dry matter. Complete the "Your Costs" spreadsheet using the following information from Tom's farm:
 - Seed costs: cereal rye = \$0.30/lb, common vetch = \$0.70/lb, inoculant = \$2/ac.
 - Labor = \$10/hr, fuel = \$4/gal
 - Tractor used for all operations has 70 hp
 - Seeder is a tractor-driven spin spreader with a 30' broadcast width and operated at 4 mph
 - Seed is incorporated with 12' harrow operated at 4 mph
 - Cover crop is killed with a 10' flail mower operated at 3 mph
 - Cover crop is disced twice with a 12' disc operated at 4 mph

