

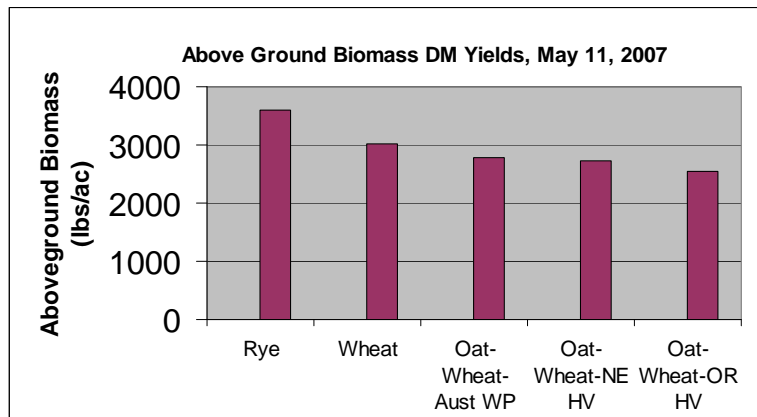
Figure 1. Plot plan for treatments used for on-farm trials at Misera's Organic Farm in Butler County, PA.

Border : Rye			
Lane	1 – Rye alone 2.5 bu/ac	3	4
	2 – Wheat alone 2 bu/ac	5	1
	3 – Wheat, Oats, Nebraska Hairy Vetch	2	3
	4 – Wheat, Oats, Oregon Hairy Vetch	1	5
	5 – Wheat, Oats, Austrian Winter Pea	4	2
Total length of field is approximately 800 feet			

Visual observations of the cover crop establishment in November 2006 were positive. All plots had good establishment of species planted. Hairy vetch had reached an average height of approximately 3-4 inches, where the Austrian winter pea plants were anywhere from 4-5 inches tall. The hairy vetch also showed signs of hardening off in the colder weather. Visually there was also a difference in the species of rye used. Two varieties of rye were used in this trial (Arustic rye sources from Tallman Farms and a variety not stated). There were visible color differences between these two. Some light deer pressure was also observed on the oats.

In May 2007 aboveground biomass samples were cut from two quadrats that each measured ¼ square meter (1/2 sq. meter total). Figure 2 details the dry weights of each cover crop combination.

Figure 2. Aboveground biomass dry matter yields for cover crop plots taken at Misera's Organic Farm taken May 11, 2007



PASA and Penn State hosted a field day on May 15 at Steve's farm where participants learned more about this research and Steve's overall production methods on his farm. Shortly after the field day the cover crops were destroyed and the field was planted into organic field corn. The field corn was then followed through the growing season and harvested in the fall of 2007. Corn grain yields were measured from each cover crop treatment plots.

On September 6, 2007 the same field was then seeded with another fall cover crop combination and variable seeding rates. This time rye was used in all treatments and an additional application of manure was applied to some treatment plots. Table 1 details the cover crop combinations used after corn harvest.

Table 1. Cover crop treatments.

Key / Treatment	Seed Type	Seeding Rate (lbs/acre) – intended lbs/ac number
1	Rye alone	130 (140)
2	Rye, Oat, Hairy Vetch	105 (124) – (56), (38), (30)
3	Rye, Oat, Austrian Winter Pea	187 (194) – (56), (38), (100)

Figure 3. Cover crop plot plan.

Corn field		
Lane	Rye Manure applied	Rye/Oat/Austrian Winter Pea
	Rye/Oat/Hairy Vetch	Rye/Oat/Hairy Vetch Manure applied
	Rye/Oat/Hairy Vetch Manure	Rye/Oat/ Hairy Vetch
	Rye/Oat/Austrian Winter Pea	Rye Manure applied

These cover crops will again be followed through the spring of 2008 when aboveground biomass samples will be taken to see if there are any significant differences in the amount of dry matter produced. Organid field corn will then be planted after the cover crop is destroyed. Stayed tuned to future newsletters for updates on this research.

This on-farm research is funded by a USDA special grant and a Northeast Sustainable Agriculture Research & Education (SARE) Partnership Grant.