

2017 Industrial Hemp Trials

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Six replicated small plot trials were established on research farms on the Cornell University Agricultural Experiment Station near Ithaca, NY and the New York Agricultural Experiment Station in Geneva, NY. Trial locations were chosen to represent different soil types and drainage classes found in New York State (Table 1). On all planting dates, a grain/dual purpose trial was seeded. Limited seed amounts of fiber varieties restricted fiber trials to two planting dates.



Grain/dual purpose trial at 4 weeks

Table 1: 2017 Trial locations, planting dates, and soil characteristics.

Location	Planting date	Soil type	Drainage
Ithaca, NY (McGowan)	June 9* June 29	Niagara silt loam	Somewhat poorly drained
Ithaca, NY (East Ithaca)	June 14	Arkport fine sandy loam Williamson very fine sandy loam	Well drained Moderately well drained
Geneva, NY (RN00A)	June 28*	Lima loam	Moderately well drained
Geneva, NY (CN011)	July 10	Odessa silt loam	Somewhat poorly drained
Freeville, NY (Org.8)	July 12 *Fiber trial also established	Howard gravelly loam	Well drained



June 9 planting in Ithaca, NY

Plot trials were planted with a tractor mounted 6-row grain drill. Plots are 4'x20', replicated 4 times and planted in a randomized complete block design. In all trials except the Freeville (organic) trial, additional fertilizer was added so that at least 100 units of nitrogen were available for the grain/dual purpose trials and at least 60 units of nitrogen were available for the fiber trials.

Seeding depth was 3/4" in all locations, except for the June 14, East Ithaca planting, which had a 1/2" seeding depth. This change in planting procedure is because we have experience with that soil type and know that it packs very tightly, limiting seedling emergence.



Dioecious variety, male flower on left, female flower on right

The grain/dual purpose trials are comprised of thirteen varieties from Canada, France, Poland, and Ukraine. The seven entries marketed as dual purpose are monoecious varieties (male and female flowers on the same plant), while the six entries marketed as grain varieties are dioecious (male and female flowers on separate plants). Germination rates varied greatly among varieties as some were packaged for 2016 planting and others for 2017 planting, so seeding rate was corrected to 20 lbs/acre PLS (pure live seed).

The fiber trials are comprised of four dioecious varieties from Italy. Fiber varieties were seeded at a rate of 60 lbs/acre PLS.

Table 2: 2017 Industrial hemp varieties and seed sources

Grain/Dual purpose varieties	Origin	Seed Company	Days to Maturity	Fiber varieties	Origin	Seed Company
Futura 75	France	Schiavi Seeds LLC	<145	Carmagnola Selezionata (CS)	Italy	Schiavi Seeds LLC
Felina 32	France	Schiavi Seeds LLC	<135	Carmagnola	Italy	Schiavi Seeds LLC
USO-31	Ukraine	Schiavi Seeds LLC	90-100	Fibranova	Italy	Schiavi Seeds LLC
Bialobrzeskie	Poland	Schiavi Seeds LLC	<135	Eletta Campana	Italy	Schiavi Seeds LLC
Tygra	Poland	Schiavi Seeds LLC	<135			
Wojko	Poland	Schiavi Seeds LLC	n/a			
CFX-2	Canada	Hemp Genetics International	103+			
CFX-1	Canada	Hemp Genetics International	105+			
Katani	Canada	Hemp Genetics International	100-110			
Piccolo	Canada	Hemp Genetics International	100-110			
CRS-1	Canada	Hemp Genetics International	~110			
Grandi	Canada	Hemp Genetics International	100-110			
Anka	Canada	Valley Bio Limited	~110			

Company	Contact	email
Hemp Genetics International	Jeff Kostuik	Jeff.kostuik@hempgenetics.com
Schiavi Seeds	Andrea Schiavi	info@schiviseeds.com
Valley Bio Limited	Reuben Stone	info@valleybio.com

Throughout the growing season, we are taking notes on plant density, plant height, growth rate, flowering dates (male and female), weed pressure, and other useful information as needed, including insect feeding and disease pressure.

The grain/dual purpose trials will be harvested when about 75% of the seed is mature with a research plot combine. Grain will be tested for crude protein, oil content, total fiber, energy content, and fatty acid composition. Remaining hemp fiber will be analyzed for total fiber and other compositional traits.

The fiber trials will be harvested between flowering and seed set. Ten stems will be randomly sampled from each entry at each location. These stems will be retted and used to estimate proportions of bast and hurd fiber. Additional samples will be taken and analyzed in a lab for total fiber and other composition traits. After hand sampling, plots will be harvested for total plot weight and percent dry weight.

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