

Double Crop Rotations with Winter Cereals and Corn Silage or Forage Sorghum



Preliminary Results

Aurora Farm Field Day July 13, 2017
Nutrient Management Spear Program

Winter Cereal N Needs, Yield, and Quality

Sixty-three winter cereal N-rate trials (either triticale, cereal rye, or winter wheat) were implemented across New York from 2013-2016. Each trial had 5 N rates applied at green-up in the spring in 4 replications. Plots were harvested at flag-leaf stage in May, and measured for yield and quality.

Species	# Sites	% Sites	MERN > 0	MERN > 0	Yield at MERN	Yield at MERN
		MERN = 0	Range	Average	Range	Average
		-----lbs N/acre-----			-----tons DM/acre-----	
Cereal Rye	21	24%	30-120	77	0.7-2.4	1.6
Triticale	38	39%	30-120	86	0.7-3.1	2.0
Wheat	3	33%	74-93	84	0.4-1.6	1.1

	# Sites	CP	NDF	ADF	IVTD	NDFD ₄₈
		-----% dry matter-----				% NDF
Cereal Rye	21	17	52	28	88	77
Triticale	38	16	52	28	88	77
Wheat	3	18	48	24	90	80

Forage Sorghum N Needs, Yield, and Quality

Twelve forage sorghum N-rate trials were conducted in central and northern New York from 2012-2016. Each trial had 5 N rates applied at planting in June in 4 replications. Plots were harvested at soft dough stage in the fall and yield and quality were determined. Two of the trials in 2014, 2 in 2015, and 4 in 2016 were also sampled at different growth stages to determine how timing of harvest impacts yield and quality.

Year	County	MERN	Yield at MERN	CP at MERN	NDF	Starch	Non-fiber carbs	NDFD ₃₀
		lbs/acre	tons DM/acre	-----% DM-----				% NDF
2012	Tompkins	101	5.2	7.0	-	-	-	-
2013	Tompkins	> 200	9.9	8.4	54	12	36	-
	Columbia	0	8.3	6.9	50	23	39	-
2014	Tompkins	140	6.7	7.0	-	-	-	-
	Cayuga	> 200	6.7	7.4	-	-	-	-
	Columbia	0	8.0	-	-	-	-	-
2015	Tompkins	0	5.8	5.5	48	22	42	56
	Cayuga	215	9.8	8.5	48	15	41	64
2016	Cayuga	> 300	10.1	10.0	45	23	43	58
	Jefferson	0	5.3	10.0	43	22	42	57
	St. Lawrence	0	11.1	8.5	45	22	43	58
	St. Lawrence	158	9.9	8.9	47	18	42	64

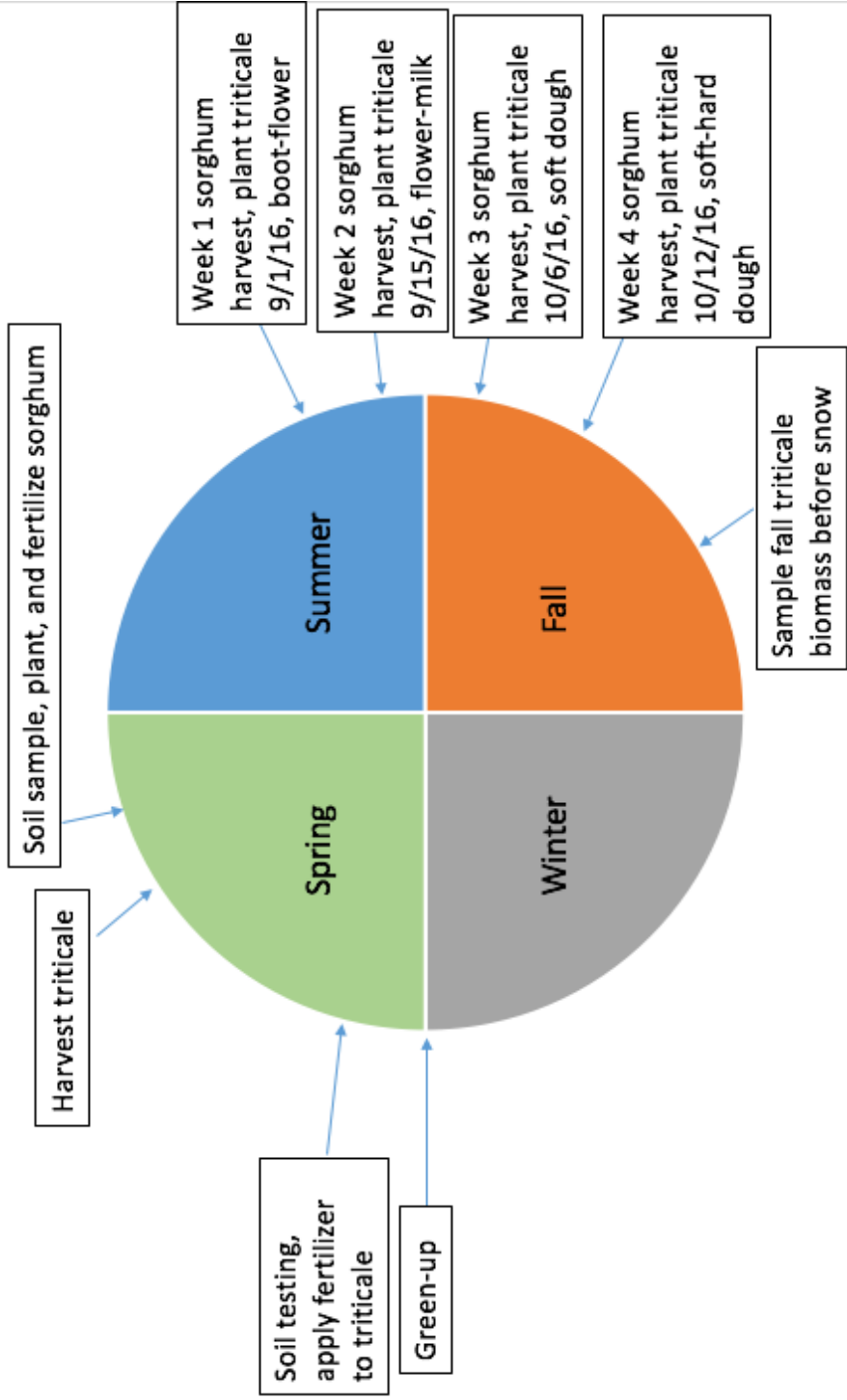


Figure 1. Description of double crop rotation trial timeline