

2007 Michigan Wildlife Food Plot Variety Trials

East Lansing, MI (42.72°N)

Richard Leep¹ and Timothy Dietz²

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Results from the 2007 Growing Season

Michigan weather, once again, presented challenges to many producers. Hard frost in mid-April resulted in damage on newly emerged shoots and foliage in established stands and delayed planting activities for several crops statewide. This late frost resulted in lower first cutting yields for most forage producers in Michigan. The south-central portion of the state received excess rainfall in May and early-June, which resulted in increased levels root rot diseases and stand loss in poorly drained areas. Most of the state experienced dry conditions beginning in July and continuing until mid-August. Northern areas of the state received below-average rainfall from late-April to September. The northwest region was the hardest-hit. Growing season precipitation amounts are presented for East Lansing in Table 1.

The first cutting of the 2005 trial was on June 11, July 24, and Oct . 29. Yield, stand ratings and forage quality results are presented in table 2. The 2006 trial contained four mixtures that were entered as annuals; therefore, the data for these mixtures was not collected in 2007. The 2006 seeding was harvested on June 8, July 23, and October 29 and the data is presented in table 3. Mixtures containing a high percentage alfalfa yielded very well in 2007 due to alfalfas deep-rooting characteristic.

Prior to harvest a subsample of each plot in the perennial trials was collected, dried, and ground (1mm screen) for forage quality analysis. Crude protein was estimated from total nitrogen determination via the Hach modified Kjeldahl method. Neutral detergent fiber (NDF) and Acid Detergent Fiber (ADF) were obtained using the Goering/VanSoest Sequential Fiber Analysis with the addition of 1ml of alpha-amylase for the breakdown of starch. The ADF (cellulose and lignin) and NDF (hemicellulose + ADF) content of forages are important measurements because they provide an estimate of digestibility. The higher the ADF content, the less digestible a forage would be to a ruminant. The higher the NDF content of a forage, the greater the level of satiety (fullness) a ruminant would experience when feeding on that forage, thereby decreasing the forage intake. Mixtures containing a large amount of legumes result in the highest level of forage quality with crude protein and fiber contents approaching that of high-quality dairy feed. Lactating ruminants require NDF fiber content around 40 %. Many of the perennial species were just about perfect for providing excellent intake potential to ruminants. Crude protein content of perennial species ranged from 12.7 to 18.6%. Crude protein levels of these entries are more than sufficient for all game species feeding on the plants.

¹ Forage Agronomist, Crop and Soil Sciences, Michigan State Univ.

² Research Assistant, Crop and Soil Sciences, Michigan State Univ.

Table 1.2007 Precipitation (inches)

	East Lansing		
	Norm*	2007	dev
Apr	2.81	1.85	-0.96
May	2.73	4.16	1.43
June	3.54	5.56	2.02
July	3.02	0.52	-2.50
Aug	3.12	5.20	2.08
Sept	2.50	2.10	-0.40
Oct	2.20	4.52	2.32
Total	19.92	23.91	3.99

Statistics

Data are analyzed using PROC GLM or MIXED in SAS v. 8.2 software (Cary, NC). Means and Fischer's Least Significant Difference (LSD) are reported at the bottom of each column. The LSD is used to compare values *within* a column and is the minimum difference between two values for a "real" difference to exist. The alpha level for the LSD in these trials was 0.05 or 5%, which means, we are 95% certain that values differing by more than the LSD are not due to chance.

*30 yr ave.

Table 2. 2005 Perennial Wildlife Food Plot Variety Trial, 2007 Harvest

Ingham County, Michigan

non-irrigated

Product Name	Company	Spring Stand Rating 1 to 5*	cut 1	cut 2	cut 3	2007	2006	2005	3-yr.	2007 Quality**		
			11-Jun	30-Jul	29-Oct	Total	Total	Total	Total	CP	ADF	NDF
			yield dry tons/acre							%		
D-K Drought Deer Mix	Kester's Wildlife Food Plot Nursery	4.8	2.65	0.92	0.54	4.11	3.29	1.06	8.46	13.1	28.9	45.0
Whitetail Select- Infinity	Get Outdoors Hunting,LLC	5.0	2.56	0.70	0.39	3.65	3.70	0.85	8.20	13.6	29.8	44.1
Farmscapes Champion Brand Clover	Grassland Central	4.2	1.40	0.23	0.15	1.78	2.59	0.79	5.16	15.1	26.4	39.9
Imperial Whitetail Clover	Whitetail Institute of N. America	4.8	1.25	0.23	0.29	1.77	1.68	1.20	4.65	16.3	23.8	36.1
Synergy	ProSeeds Marketing Inc.	4.2	1.27	0.18	0.31	1.76	1.98	0.63	4.37	15.5	25.9	39.1
Farmscapes Deer & Wildlife Mix	Grassland Central	4.8	1.08	0.18	0.20	1.46	1.78	0.62	3.86	18.6	23.1	35.2
Mean		4.7	1.70	0.41	0.31	2.42	2.50	0.85	5.78	15.4	24.5	39.9
LSD‡ (0.05)		0.7	0.53	0.17	0.26	0.77	0.27	0.45	0.94	2.6	3.8	5

Location: Mich. State Univ. Exp. Station, East Lansing
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)
 Seeded: 18-May-05
 Soil Type: Capac loam, tile drainage
 Cuttings: one in 2005, two in 2006
 Fertility: Soil test taken April 2005: pH: 7.4, P:26 ppm, K:124 ppm
 Herbicide: None

*Visual rating (1=0-20% stand...5=80-100% stand)

**CP:Crude protein= Total Nitrogen content x 6.25, ADF: Acid Detergent Fiber (Lignin + Cellulose), NDF: Neutral Detergent Fiber (Hemicellulose + ADF)

‡ Least Significant Difference- based on error due to sampling, this is the minimum difference between means for a "real" difference to exist

Table 3. 2006 Wildlife Food Plot Variety Trial, 2007 Harvest

Ingham County, Michigan
non-irrigated

Product Name	Company	Stand Rating 1 to 5*	Yield dry matter tons/acre						Quality**		
			cut1 8- Jun	cut2 23- Jul	cut3 29- Oct	2007 Total	2006 Total	2-yr Total	CP	ADF %	NDF
Wildlife Perfect Ultimate Plus	AMPAC Seed	4.5	3.80	1.79	1.54	7.13	1.74	8.87	13.9	29.9	48.2
Wildlife Perfect Grazing mix	AMPAC Seed	5	4.26	1.98	1.03	7.26	1.36	8.62	15.7	29.1	45.3
Infinity	Get Outdoors Hunting	3.5	2.94	1.78	0.96	5.67	2.62	8.29	14.7	26.5	45.2
Great Lakes Deer & Wildlife Mix	Michigan State Seed Solutions	5	3.67	1.13	1.12	5.91	2.25	8.16	12.7	29.9	56.1
	Mean		3.67	1.67	1.16	6.49	2.01	8.49	14.3	28.9	48.7
	LSD‡ (0.05)		0.53	NS	0.43	0.64	0.96	NS	1.7	NS	3.1

Location: Mich. State Univ. Exp. Station, East Lansing

Design: RCB, plot size 5 x 18' (3 x 14' harvested)

Seeded: 30-Jun-06

Cuttings: two in 2006

Soil Type: Capac loam, tile drainage

*Visual rating (1=0-20% stand...5=80-100% stand)

**Crude protein- Total N*6.25, NDF-Neutral Detergent Fiber, ADF- Acid Detergent Fiber

‡ Least Significant Difference- based on error due to sampling, this is the minimum difference between means for a "real" difference to exist

Seed marketer contacts

AMPAC Seed www.ampacseed.com 866-663-0129

DLF International www.dlf.com

Get Outdoors Hunting www.getoutdoorshunting 888-826-3849

Grassland Central www.farmscapes.net 952-492-2990

Kester's Wild Game Food Nurseries www.kestersnursery.com 920-685-2929

Michigan State Seed Solutions www.seedsolutions.com 800-647-8873

Pro Seeds Marketing www.proseeds.net 541-928-9999

Whitetail Institute of North America www.whitetailinstitute.com 800-688-3030