Michigan Wildlife Food Plot Variety Trials, 2009 harvest

Michigan State University Agriculture Experiment Station, East Lansing, MI (42.72°N)
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Results from the 2009 Growing Season

The spring of 2009 will be remembered for the heavy rains that fell upon snowmelt saturated ground (Fig 1.). Standing water in portions of fields caused stand loss and delayed planting activities. Low temperatures prevailed and only exceeded 90° F for a one week in June. Rainfall total (Apr.-Oct.) for East Lansing was 9.2 in. above the 30-year average.

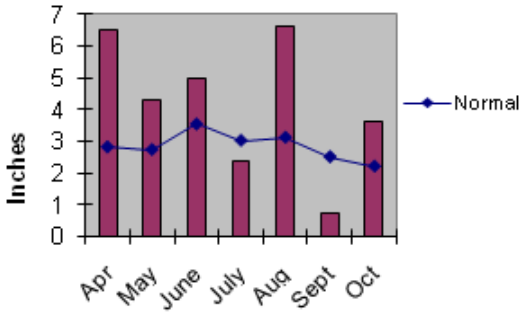

Figure 1. Rainfall (in.) in East Lansing Apr-Oct. 2009.

The trial seeded in the spring of 2006 was harvested on Jun. 9 and again on Oct. 5. Grass dominated most plots at both harvests and those stands that contained orchardgrass or timothy had the greatest yields. However, those with significant legume content had greater forage quality. Over the years, the highest yielding products contained alfalfa. Alfalfa is a deep-rooted species that yields well in dryer periods and in high temperatures, when shallow-rooted species, such as white clover and perennial ryegrass, grow slowly. The mixtures tested may all perform well in a given situation and should not be rejected due to low yields in this trial. This trial illustrates the benefits of mixtures with multiple species with differing growth habits and climatic requirements.

Prior to harvest a subsample of each plot 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 potential intake and 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. The crude protein and fiber levels of all mixtures evaluated were at adequate levels for wild game. Yield and forage quality results from the final year of data collection, are presented in table 1.

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.

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Table 1. Forage yield and quality of the 2006 Wildlife food plot variety trial (non-irrigated) in East Lansing, MI.

Product Name	Yield dry matter tons/acre							Quality*		
	9-Jun	5-Oct	2009	2008	2007	2006	**4-yr**	CP	ADF	NDF
									%	
Great Lakes Deer & Wildlife Mix	3.11	0.83	3.94	4.47	5.91	2.25	16.57	5.7	37.8	61.7
Wildlife Perfect Ultimate Plus	1.66	0.97	2.62	4.28	7.13	1.74	15.77	12.9	28.3	44.0
Infinity	2.11	0.70	2.81	3.24	5.67	2.62	14.34	10.0	35.7	54.4
Wildlife Perfect Grazing mix	1.64	0.34	1.98	3.45	7.26	1.36	14.05	11.0	28.7	44.7
Chickadee	0.92	0.35	1.26	1.83	6.51	1.24	10.84	9.8	28.5	44.5
Mean	1.88	0.64	2.52	3.45	6.50	1.84	14.31	9.9	31.9	49.8
LSD‡ (0.05)	0.46	0.14	0.48	0.73	1.28	0.96	2.30	2.7	4.5	8.5

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, three in 2007 & 2008
Soil Type: Capac loam, tile drainage
Herbicide: None

*Crude protein- Total N*6.25, NDF-Neutral Detergent Fiber, ADF- Acid Detergent Fiber (1st cutting 2009)
‡ Least Significant Difference- based on error due to sampling, this is the minimum difference between means for a "real" difference to exist

Product Name	**Company**	**species**
Great Lakes Deer & Wildlife Mix	Michigan State Seed Solutions	Climax timothy, Creeping red fescue, Mammoth red clover, alsike, alfalfa, 4n perennial ryegrass,ladino, Potomac orchardgrass,med. Red clover, Empire Birdsfoot trefoil
Wildlife Perfect Ultimate Plus	AMPAC	Rack Builder alfalfa, Hunt Club white clover, Plot Enhancer Chicory, Starfire Red clover
Infinity	Get Outdoors Hunting	Regal ladino clover, alsike clover, Kopu II white clover, New Zealand white clover, SS100 alfalfa, Duration red clover, Starfire red clover, Falcata alfalfa, Durana white clover, Oasis chicory,Dwarf Essex rape
Wildlife Perfect Grazing mix	AMPAC	Hunt Club white clover, chicory
Chickadee	DLF International	Chicory

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