

# 2010 Pasture Measurement Project Summary

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## Introduction

According to the 2007 Census of Agriculture there are 42,385 farms using 1,674,776 acres of pasture land in Ohio. Objective information on how pastures perform throughout the growing season would be useful to manage this feed resource.

## Objective

To determine the relative weekly performance of forages growing in rotationally managed pastures in Ohio.

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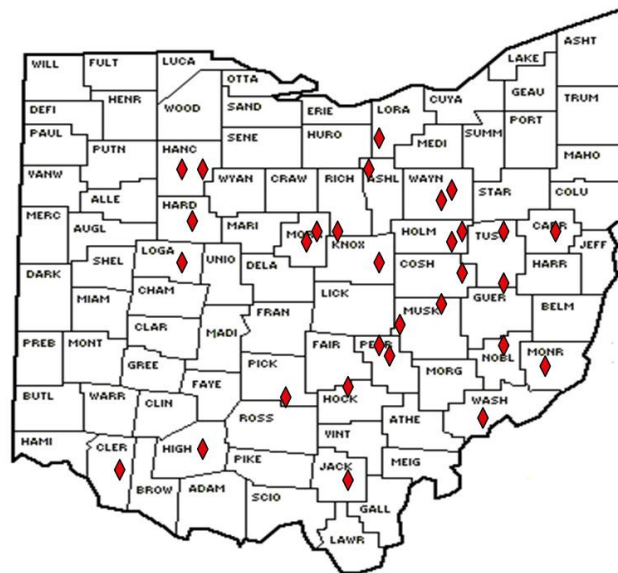
Crop Year: 2010

Measurement start date: March 15

Location: See map

Measurement end date: Nov. 14

**Figure 1. 2010 Pasture Measurement Cooperator Locations**



## Methods

The project involves taking total above ground forage mass measurements weekly on farms across Ohio. The pastures measured contain typical forages found in Ohio pasture fields. Management of the pasture fields including when to graze, clip or fertilize is up to the cooperating farmer. These farmers measure the same pasture field every week using a commercially available rising plate meter (Jenquip) and report the measurement. Measurements are taken during the grazing season, and before and after grazing or clipping the field. At least thirty measurements are taken in each field to determine its pasture mass. The multiplier was developed from the relationship of the pasture meter reading to pasture mass determined by hand

clipping samples, drying then weighing the dry sample. Plate meter readings are multiplied by 107.4 to get pounds of dry matter (DM) per acre. Growth is calculated by dividing the difference in consecutive measurements by the days between measurements.

## Results

Week of the Year	Number of Pastures Reporting	Average Growth (lb DM/ac/day)	Standard Deviation
13	9	38.63	24.37
14	14	34.43	27.49
15	20	56.38	53.69
16	24	48.55	43.96
17	25	75.00	39.99
18	60	97.70	57.67
19	53	77.82	52.61
20	61	67.35	53.49
21	32	84.02	57.67
22	32	64.60	32.94
23	40	49.38	34.32
24	45	64.21	41.25
25	30	49.09	33.98
26	34	48.17	31.23
27	24	38.53	26.67
28	18	45.59	34.89
29	24	33.55	26.98
30	15	38.84	24.29
31	18	42.66	23.00
32	19	32.16	24.09
33	16	29.44	24.28
34	26	33.63	26.10
35	9	28.30	23.56
36	10	38.32	54.00
37	10	20.57	20.25
38	17	15.22	13.73
39	14	26.73	17.83
40	3	21.94	24.06
41	12	35.35	18.99
42	9	9.08	5.94
43	7	36.95	30.37
44	7	22.33	15.84
45	3	7.29	5.91

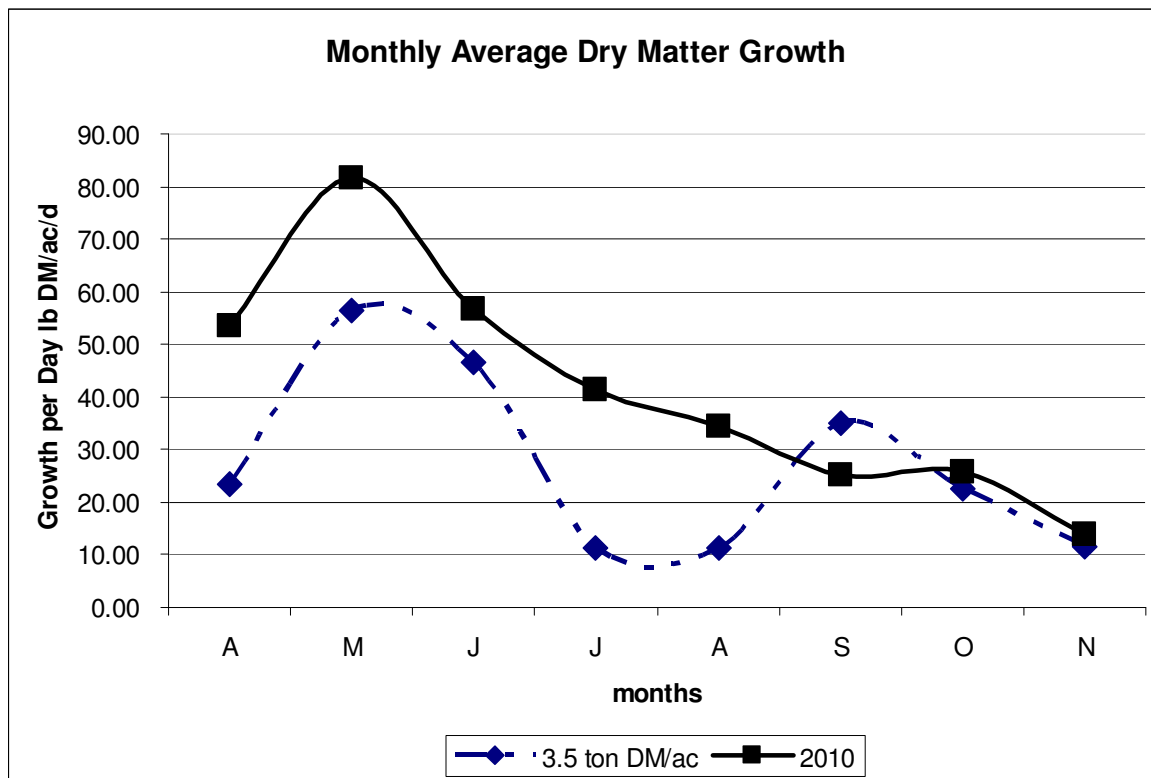
## Summary

We know that cool season forages do not grow at the same rate all year. The bimodal growth pattern is represented in Figure 2 as the 3.5 ton yearly production level based on the seasonal

yield distribution reported in the Ohio Agronomy Guide. Many times in planning grazing systems we use an annual production number of 3.5 tons of DM produced per acre. Figure 2. compares the planning values with the monthly average measured in 2010. The first thing you notice is that we produce more forage per day than the 3.5 ton yield. All of the fields measured were managed under a rotational grazing system. You should also notice the differences in the curves. This bimodal production is not apparent in the on-farm results we measured.

This information is useful to help with feed budgeting. Growth last year did not perform as expected. Adjustments to stocking density, paddock size, or length or grazing period could be adjusted to account for this change. Supplemental feed needs and excess available for harvesting and storage also need to be adjusted.

**Figure 2. 2010 Monthly average growth compared to 3.5 ton per acre planning average.**



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