

Annual Summary Report for Maus Farm, Atkins, AR

NRCS site AR115130101, AR115130102, and AR115130103

Summary Data

Annual summary data collected and analyzed to date are given in Table 1 for flow and concentration and in Table 2 for loads.

At the moment, we do not see any major differences among the sites in terms of flow characteristics, nutrient concentrations, or edge-of-field loads of P, N or sediment. This is to be expected given the short time of sample collection at this site and it is difficult and inappropriate to attempt to draw any conclusions from the data at this early stage of monitoring.

We will continue monitoring into 2015 and evaluate the practices as decided and imposed by the farmer on these sites. Those practices will include the use of a cover crop and irrigation using a relift pump.

Potential Data Collection Issues

Initial problems with ISCO sampler failures were corrected after three months of testing and by May, 2014 all sites were fully operational. At the moment, we do not foresee any data collection issues. An additional field has been land-leveled for more efficient irrigation water use and we will be to assess the impacts of this practice on water use, runoff timing and volume, nutrient loss.

With farmer permission we plan to install another monitoring site on the last of the four fields that meet at our sampling collection points. In late October we experienced flooding, which meant runoff samples were not collected. This was due to an act of nature and not farmer or sampling inadequacies.

Photographs of the site are included for further information and clarity.

Table 1. Annual Summary Flow and Nutrient Concentration Data for Maus Site, Atkins, AR.

Sampler ID	Date collected	Precip. (in)	Runoff (in)	Peak discharge (gpm)	Peak discharge (cfs)	Total discharge (gal)	Total runoff (cubic feet)	DP (mg/L)	TP (mg/L)	NO ₃ +NO ₂ (mg/L)	TN (mg/L)	TS (mg/L)
NRCS site AR115130101												
Atk1	3/3/2014	0.75	0.07	1142.86	2.55	15455.3	2066.1	0.042	0.044	0.33	0.92	315.7
Atk1	4/28/2014	1.28	0.03	70.16	0.16	12790	1709.8	1.315	1.576	0.43	3.58	191.0
Atk1	6/9/2014	1.61	1.53	ND	ND	171710	22954.4	0.021	0.332	1.00	1.74	90.9
Atk1	6/14/2014	0.12	0.60	ND	ND	301080	40248.7	1.684	1.822	2.98	5.69	19.6
Atk1	7/8/2014	2.32	0.36	626.76	1.40	177559	23736.3	0.648	0.620	2.95	4.27	374.7
NRCS site AR115130102												
Atk2	4/28/2014	1.28	0.02	45.72	0.10	4548.1	608.0	0.890	1.350	0.69	3.25	683.0
Atk2	5/8/2014	1.3	0.02	45.66	0.10	6156.2	823.0	1.064	1.530	0.43	1.45	145.0
Atk2	5/12/2014	0.71	0.17	356.9	0.80	39915.2	5335.9	1.099	1.578	0.83	2.88	97.3
Atk2	6/8/2014	1.16	1.34	1374.08	3.06	193865	25916.1	0.834	0.754	0.78	2.09	110.2
Atk2	6/9/2014	0.45	0.15	381.46	0.85	40241.1	5379.5	0.294	0.424	0.09	0.48	59.9
Atk2	7/2/2014	1.26	0.01	50.92	0.11	3921.9	524.3	0.761	1.984	3.66	5.29	1123.6
Atk2	7/8/2014	2.32	1.17	1343.67	3.00	500794	66946.6	0.563	0.804	2.03	3.39	354.2
NRCS site AR115130103												
Atk3	5/8/2014	1.3	0.16	223.33	0.50	27587	3687.9	1.304	1.460	0.50	2.12	46.7
Atk3	5/12/2014	0.71	0.23	202.6	0.45	67453	9017.2	0.731	1.040	0.66	2.35	58.7
Atk3	5/17/2014	0.35	0.15	165.71	0.37	40093.1	5359.7	0.333	0.548	1.01	2.39	33.2
Atk3	6/8/2014	1.57	0.55	496.2	1.11	112214	15000.8	0.333	0.484	0.32	1.49	148.4
Atk3	6/9/2014	1.16	0.34	20.28	0.05	53846.9	7198.3	1.078	1.190	0.08	1.05	12.4
Atk3	7/2/2014	0.45	0.01	77.2	0.17	4452.9	595.3	0.597	1.152	1.53	3.00	847.6
Atk3	7/8/2014	2.32	0.56	675.17	1.51	168408	22512.9	0.331	0.452	1.39	2.57	249.2

Table 2. Annual Summary Nutrient Loss Data for Maus Site, Atkins, AR

Sampler ID	Date collected	DP (lbs/acre)	TP (lbs/acre)	NO3+NO2 (lbs/acre)	TN (lbs/acre)	TS (lbs/acre)
NRCS site AR115130101						
Atk1	3/3/2014	0.001	0.001	0.005	0.014	4.9
Atk1	4/28/2014	0.008	0.009	0.003	0.021	1.1
Atk1	6/9/2014	0.002	0.026	0.077	0.134	7.0
Atk1	6/14/2014	0.227	0.246	0.403	0.769	2.6
Atk1	7/8/2014	0.053	0.051	0.241	0.349	30.6
Sum		0.290	0.332	0.728	1.287	46.232
NRCS site AR115130102						
Atk2	4/28/2014	0.003	0.005	0.003	0.012	2.6
Atk2	5/8/2014	0.006	0.009	0.002	0.008	0.8
Atk2	5/12/2014	0.043	0.062	0.033	0.114	3.8
Atk2	6/8/2014	0.252	0.228	0.236	0.633	33.4
Atk2	6/9/2014	0.010	0.014	0.003	0.016	2.0
Atk2	7/2/2014	0.002	0.004	0.008	0.012	2.5
Atk2	7/8/2014	0.149	0.213	0.539	0.900	94.0
Sum		0.466	0.536	0.824	1.694	139.111
NRCS site AR115130103						
Atk3	5/8/2014	0.046	0.051	0.018	0.075	1.6
Atk3	5/12/2014	0.038	0.055	0.035	0.124	3.1
Atk3	5/17/2014	0.011	0.019	0.034	0.081	1.1
Atk3	6/8/2014	0.042	0.060	0.040	0.186	18.5
Atk3	6/9/2014	0.083	0.091	0.006	0.080	1.0
Atk3	7/2/2014	0.002	0.004	0.005	0.010	2.8
Atk3	7/8/2014	0.042	0.057	0.176	0.326	31.6
Sum		0.264	0.338	0.314	0.882	59.742

Site Photographs





