

## CLIMATOLOGY OF SOIL WATER

A long term study (at least 5 years) was initiated in August, 1985 to determine the climatology of soil water on continuous spring wheat at the Carrington, Dickinson, Hettinger, Langdon, Minot, Streeter, and Williston Branch Stations. A second objective is to develop a fall soil water recharge model. This is Paul Brenk's thesis project.

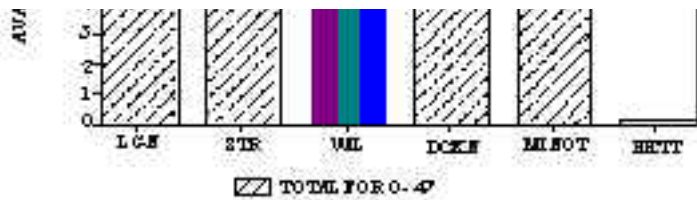
Soil water content was measured at biweekly intervals to depths of 48 inches during the fall. Precipitation was measured nearby. The soil at the various sampling sites will be analyzed to determine all significant characteristics. Soil water content will be measured at biweekly or monthly intervals throughout the frost free season. These data will be used to develop the annual and long term variation in soil water and may help to predict soil water recharge during the spring and fall. They may also help to explain other research results on these plots.

The project's success will depend on the continued cooperation of the Carrington, Dickinson, Hettinger, Langdon, Minot, Streeter, and Williston Branch Station personnel.

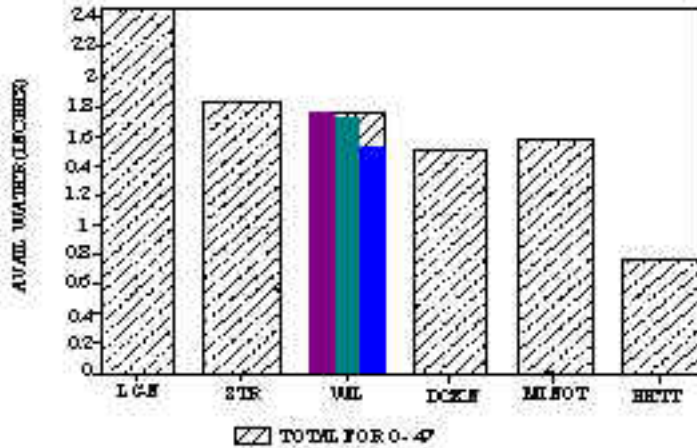
Figures 1 and 2 summarize soil moisture data collected at the Branch Stations for the fall of 1985. Both gravimetric water content, (W), and available water, (inches, layer), are shown graphically. The available water calculations have incorporated assumed bulk densities and 15 bar moisture contents. Adjustments shall be made next summer when the soils are clearly defined and characterized.



Langdon	9/30/85	13.3043
Streeter	10/14/85	8.1794
Williston	10/17/85	8.1018
Williston	10/17/85	7.9611
Williston	10/17/98	5.1332
Dickinson	10/28/85	7.5335



Minot	10/18/85	6.5493
Hettinger	10/31/85	0.1662



Langdon	9/30/85	2.3381
Streeter	10/14/85	1.7707
Williston	10/17/85	1.7161
Williston	10/17/85	1.6938
Williston	10/17/85	1.5064
Dickinson	10/28/85	1.4584
Minot	10/18/85	1.5226
Hettinger	10/31/85	0.7573

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