Reading Crop Water Use Tables Tutorial

Listed at the Crop Water Use link is the crop water use information for several weather stations in northeast and north central Nebraska. Each table has lines of information about a specific crop (corn, soybeans, alfalfa, potato, and grass) and specific emergence date (month day). We try to update these tables daily Monday through Friday, however, on occasion the server in Lincoln or at Norfolk may fail making it impossible for us to update the information. Thank you for your patience.

The estimated crop water use is calculated based on local weather information collected at an automated weather station near the city listed in Column 1 and is for a well-watered crop. If you tend to under irrigate, these values will be higher than you might experience when monitoring your soil water levels.

Emergence date and relative maturity selections were made based on local input about when each crop was planted in the area around the weather station location. We have tried to bracket the planting season for corn and soybeans in an effort to provide information to a broad group of producers. The other crops have a single emergence date.

1. Page down until you find the weather station closest to your field.
2. The date when the data was updated is provided on the top left side of each table. The date when the data were collected is presented a few lines down and is centered on the page.
3. Find the line of information that is closest to your field situation. An example printout is provided below. (Example: corn emerged on 5 20) in Columns 3 and 4 of the highlighted line.
4. Read the accumulated growing degree days (GDD's using the 86^{o}:50^{o} method) based on May 20 emergence date in Column 5 of line 2 (515).
5. Read the calculated crop water use for the previous week, the past 3 days, and yesterday in Columns 6, 7, and 8 of line 2 (0.13, 0.15, 0.13) in inches per day.
6. Read the estimated crop water use for the next three days and next week in columns 9 and 10 of line 2 (0.14, 0.18) inches per day.
7. Read the estimated stage of crop development based on the growing degrees accumulated and the relative maturity of the crop in Column 11 of line 2 (8 leaves). The crop water use estimate is the same for all relative maturities until the grain fill period. Late in the season, varieties with higher relative maturities will maintain a high crop water use rate for several days longer than low relative maturity varieties.
8. The last column provides the estimated growing degree days required for the crop to reach physiological maturity. Read 2600 in Column 12 of line 2.

Since we cannot predict when you might be harvesting your grass and alfalfa, perennial crops are assigned unrealistically high estimated growing degree days to maturity values in an effort to keep them growing throughout the summer.

If you have any questions or comments about these data tables, feel free to call:
Bill Kranz at 402-584-3857.

6/22/2010 CROP WATER USE SUMMARY

Ending on 6/20/2010

GDD @ Matur.=Acum. GDD at Maturity

					Past			Future				
				Emerg	Accum	week	3days	day	3days	week	Stage	GDD @
Station	Crop	mon	da	GDD	inches per day						Descrip	Maturity
BRUNSWICK	Corn	5	1	608.	0.17	0.19	0.16	0.18	0.22	10leaves	2.5	2600.
BRUNSWICK	Corn	5	20	515.	0.13	0.15	0.13	0.14	0.18	8leaves	2	2600.
BRUNSWICK	Soybean	5	15	556.	0.09	0.11	0.08	0.10	0.13	SecondNode		2500.
BRUNSWICK	Soybean	6	1	317.	0.05	0.06	0.05	0.06	0.08	FirstNode		2500.
BRUNSWICK	Potato	5	1	813.	0.13	0.14	0.12	0.13	0.16	Blossom		3500.
BRUNSWICK	Potato	5	20	673.	0.10	0.11	0.09	0.11	0.13	Vegetative		3500.
BRUNSWICK	Wheat	4	1	1340.	0.27	0.29	0.22	0.24	0.24	Grain Fill		1250.
BRUNSWICK	Grass	4	1	1340.	0.18	0.19	0.15	0.16	0.18	Nr Full Cov		5000.
BRUNSWICK	Alfalfa	4	1	1340.	0.26	0.28	0.22	0.23	0.26	Full Cover		5000.