VOL. 24 #11 June 30, 2004

Light Trap Count Information

We have had a few calls and e-mails regarding the light trap counts. It is no longer an excel file. The light trap count information can be found at http://nerec.unl.edu/ipm/lighttrap.htm

Grasshopper Update

The weather has really helped us out this year as far as preventing a widespread grasshopper infestation. However, there are some "hotspots" scattered around with large numbers. The next two weeks are available for reasonably easy control of grasshoppers. Waiting to treat after this time period will make it more difficult as the hoppers leave their hatching beds and spread out into crops, and get larger. For rangeland, Dimilin and Sevin are the products of choice. Often, spraying the area in strips (i.e. 50% treated and 50% non-treated) will control grasshoppers very well at half the cost, or less. It relies on grasshoppers moving from the treated to the untreated strips. This method should be used within the next week for best control. (KJ)

Western Bean Cutworm

The first western bean cutworm moths of the season were caught in our light trap at Concord on June 24. Since the moth overwinters as a prepupa in the soil, pupates in the soil and emerges from the soil as a moth, areas with heavier soils and rains may see less of a moth population than in recent years since it is harder for the moth to make its way out of the soil in a wet year. As moth numbers increase, mating will commence and the females will begin to lay eggs on corn. The appearance of the first moths provides a signal that farmers and crop consultants should begin to scout fields for the white, dome-shaped eggs. Western bean cutworm moths lay eggs in clusters of five to 200 on the top surface of the upper most leaf of a corn plant and on any leaf surface of dry beans. The eggs require five to seven days to develop, during which time the egg color changes to tan and then to purple immediately before they hatch.

After the small, dark brown larvae hatch on corn plant, they move to the whorl or tassel to feed on the tender yellow leaf tissue or on the tassel itself. Once the tassel emerges or if it has already emerged when the eggs hatch, the larvae will move to the green silks. The developing larvae will feed on the green silks moving down the silk channel until they reach the ear tip. The larvae will feed in the ear tip until they are fully developed. If the infestation on one ear tip is so great that the larvae become crowded, a few individuals may move outside the ear and begin to feed on the side of the ear. Even though field scouting for western bean cutworm in field corn should begin when the first moths are caught, control decisions should be made shortly after the moth flight peaks. The moth flight usually peaks between July 10 and July 24. When scouting for western bean cutworms in corn, check 20 plants in at least five areas of each field. Look for eggs on the top surface of the upper most leaf or look for larvae in the tassel. If 8% of field corn plants, 5% of seed corn plants or 5% of popcorn plants have egg masses or larvae, consider applying an insecticide. Herculex varieties appear to control the larvae very well, and should not need treating.

Western bean cutworm moths prefer to lay eggs in corn plants that are in the late whorl stage compared to those that have completely tasseled. Pay particular attention to later planted fields or those with uneven development. Western bean cutworm eggs that hatch when corn plants are in the whorl stage of growth have a high rate of survival. The larvae are well protected in the whorl or tassel.

If an insecticide treatment is warranted in corn, it should be made when 95% of the plants in a field have tasseled. This timing of the application increases the chance that the worms will be exposed to the insecticide resulting in better control. Chemigation has provided very good control of this insect, even at lowest labeled rates. Asana, Ambush, Baythroid, Pounce, Lorsban, Capture, Mustang, Penncap-M, Warrior, and Seven are all labeled for control of western bean cutworm. (KJ)

Need Western Bean Cutworm Eggs

We are looking for western bean cutworm eggs for research purposes. If you have a field where we could come in and gather eggs please let us know. Call Keith, Tom or Jerry at the Haskell Ag Lab, 402-584-2261. (TH&KJ)

Reading Crop Water Use Tables Tutorial

Listed in this newsletter 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).

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. 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 1) in Columns 3 and 4.

4. Read the accumulated growing degree days (GDD's) based on May 1 emergence date in Column 5 of line 4 (183).
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 4 (0.03, 0.03, 0.02) 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 4 (0.03, 0.04) 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 4 (2 leaves). The crop water use estimate is nearly 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 2800 in Column 12 of line 4. **Note that there are three different GDD totals for corn in lines 2, 3, and 4.** The numbers are meant to correspond closely with 105, 110 and 115 day relative maturities.

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 402-584-2857**.

For those with internet connections, 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. You can find the most recent information at: (http://nerec.unl.edu/cropwater.pdf) (BK)

5/17/2004 CROP WATER USE SUMMARY

Ending on 5/16/2004

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	Alfalfa	4 1	672.	0.20	0.17	0.11	0.19	0.24	Maturity	3000.
BRUNSWICK	Corn	5 10	70.	0.02	0.02	0.01	0.02	0.03	2leaves 0.5	2600.
BRUNSWICK	Corn	5 10	70.	0.02	0.02	0.01	0.02	0.03	2leaves 0.5	2700.
BRUNSWICK	**Corn**	**5 1**	**183.**	**0.03**	**0.03**	**0.02**	**0.03**	**0.04**	**2leaves 0.5**	**2800.**
BRUNSWICK	Corn	5 15	18.	0.00	0.01	0.01	0.02	0.03	2leaves 0.5	2700.
BRUNSWICK	Grass	4 1	672.	0.22	0.18	0.12	0.19	0.24	Nr Full Cov	3000.
BRUNSWICK	Potato	5 1	248.	0.03	0.02	0.02	0.03	0.04	Early Veg	2400.
BRUNSWICK	Soybean	5 15	18.	0.00	0.01	0.01	0.02	0.03	Cotyledon	2550.
BRUNSWICK	Soybean	5 15	18.	0.00	0.01	0.01	0.02	0.03	Cotyledon	2550.
BRUNSWICK	Wheat	4 1	672.	0.23	0.19	0.13	0.21	0.26	Jointing	1250.

Factors Affecting Glyphosate Performance

Glyphosate sometimes fails to control weeds adequately. Generally, failures are related to climatic conditions such as rainfall before the herbicide is rainfast, drought, failure to use AMS, too high water volume, stress on weeds growing in dense stands, and cold temperatures, especially under cloudy conditions. The glyphosate rate should be selected based on weed species, stage of growth, vigor and size of weeds, dust, and cost.

Weeds under drought stress caused by lack of rainfall or high weed density, or covered with dust are difficult to control, especially if low rates of glyphosate are used. Diseases, insects, and either too little or too much water also may cause stress. Approved AMS should be used with all glyphosate products. Do not add other surfactants, wetting agents, or buffering agents unless the label requires them. Glyphosate efficiency may be reduced on some weed species when mixed with fertilizer solutions.

Several factors can contribute to less than desirable control, depending on the situation and time of year glyphosate is applied. Glyphosate works best under good conditions for plant growth, especially when weeds are small. Labels give specific information on weed height and rate to use for different species. Weeds differ in the sensitivity to glyphosate. Table 1 lists those weeds that are tougher to control with glyphosate. Unless a pre-emergence herbicide is added, two applications of glyphosate may not be sufficient to control weeds season long in Roundup Ready crops. Perennial weeds may escape the glyphosate rate used in Roundup Ready crops because rates are too low.

Table 1. Weeds that may escape glyphosate in Roundup Ready crops or fallow in Nebraska.

Species	Mechanism
Summer annuals	
Barnyardgrass	Some tolerance
Buckwheat, wild	Moderately tolerant
Carpetweed	Delayed emergence
Cupgrass, prairie	Moderately tolerant
Foxtail, yellow	Some tolerance
Horseweed	Resistant biotypes
Kochia	Drought stress and cold temperatures
Lambsquarters, common	Moderately tolerant on tall plants, especially when mixed with Pursuit
Pigweed, tumble	Delayed emergence
Smartweed, Penn.	Some tolerance
Spurge, prostrate	Some tolerance, delayed emergence
Spurge, spotted	Tolerant
Spurge, toothed	Moderately tolerant
Puncturevine	Delayed emergence
Purslane, common	Some tolerance, delayed emergence
Thistle, Russian	Cold temperatures
Winter annuals	
Lettuce, prickly	Some tolerance
Perennial or biennial weeds	
Dandelion	Moderately tolerant
Eveningprimrose spp.	Tolerant
Groundcherry spp.	Some tolerance
Milkweed, common	Tolerant
Nutsedge, yellow	Tolerant
Windmillgrass, tumble	Tolerant

Operators becoming more knowledgeable about sprayers, herbicides, weeds, and conditions that improve performance can overcome many of these factors. Simply adding ammonium sulfate to the water before adding glyphosate can improve control, especially when weeds are under stress. Increasing the glyphosate rate can solve many of the poor weed control problems. Using 100% overlap will decrease strips from plugged tips.

Glyphosate should not be allowed to stay in the tank for more than 24 hours because glyphosate degrades and additional glyphosate would need to be added to compensate for the loss

Reasons for slow control in the early spring or late fall: Speed of kill depends on the rate used and air temperature. It takes longer to kill volunteer wheat, downy brome, and jointed goatgrass after September 20 than before. In the spring, cool temperatures usually slow the kill of volunteer wheat, annual bromes, and jointed goatgrass. However, suggested rates usually end with the same degree of control if applied early or late. Tough to control weeds, such as prickly lettuce or kochia, may need to be tank-mixed with 2,4-D or dicamba or a commercial formulation containing these herbicides should be used. The glyphosate label states that kochia should not be treated in the button stage.

Reasons for poor weed control in Roundup Ready soybean or Roundup Ready corn: Poor control is related to stage of weed growth, weed species, and weather conditions. Sometimes glyphosate + Pursuit may not control emerged common lambsquarters. Cloudy cool weather may lead to reduced control of some Russian thistle and kochia biotypes. Dust along gravel roads has reduced control with glyphosate. Velvetleaf control has diminished with evening applications of glyphosate.

Climatic conditions that affect weed control: Conditions at the time of herbicide application are important in obtaining maximum control. High temperatures (95^{o}F or higher) zero to three days before spraying reduces control with glyphosate. Rain within 24 hours reduces control of some weed species with some formulations of glyphosate. Some labels state they are rainfast within 30 minutes; however, some species of weeds, such as barnyardgrass, under drought stress may not be controlled adequately. Most applicators wait until dew is off the plants before spraying. Time of day may make a difference with some weeds. Poor control of velvetleaf has been observed with glyphosate when applications are made in the evening. In surveys taken after wheat harvest we have not seen differences in weed control. However, in research plots control of barnyardgrass decreases with lower rates applied in the evening, especially when under drought stress. Rain up to a week after spraying stressed weeds reduces control, probably due to inadequate translocation of glyphosate. Gail A. Wicks, Professor Agronomy, West Central Research & Extension Center, North Platte.

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6/29/2004 CROP WATER USE SUMMARY

Ending on 6/28/2004

GDD @ Matur.=Acum. GDD at Maturity

Station	Crop	Emerg mon/da	Accum -GDD-	Past week	Past 3days	Past day	Future 3days	Future week	Stage Descrip	GDD @ Matur
				inches per day						
AINSWORTH	Alfalfa	4 1	1516.	0.23	0.19	0.25	0.27	0.29	Full Cov	3000.
AINSWORTH	Corn	5 10	604.	0.15	0.13	0.18	0.20	0.23	10leaves2.5	2600.
AINSWORTH	Corn	5 10	604.	0.15	0.13	0.18	0.20	0.23	10leaves2.5	2700.
AINSWORTH	Corn	5 10	604.	0.15	0.13	0.18	0.20	0.23	10leaves2.5	2800.
AINSWORTH	Corn	5 1	720.	0.19	0.16	0.22	0.25	0.27	10leaves2.5	2700.
AINSWORTH	Grass	4 1	1516.	0.23	0.18	0.24	0.26	0.27	Full Cover	3000.
AINSWORTH	Potato	5 25	615.	0.08	0.07	0.10	0.11	0.13	Vegetative	2400.
AINSWORTH	Soybean	5 25	463.	0.08	0.06	0.09	0.10	0.11	SecondNode	2550.
AINSWORTH	Soybean	6 5	325.	0.05	0.04	0.06	0.07	0.09	FirstNode	2550.
AINSWORTH	Wheat	4 1	1516.	0.20	0.14	0.19	0.19	0.16	Stiff Dough	1800.
BRUNSWICK	Alfalfa	4 1	1657.	0.24	0.18	0.27	0.27	0.27	Full Cov	3000.
BRUNSWICK	Corn	5 10	701.	0.19	0.15	0.23	0.24	0.25	10leaves2.5	2600.
BRUNSWICK	Corn	5 10	701.	0.19	0.15	0.23	0.24	0.25	10leaves2.5	2700.
BRUNSWICK	Corn	5 10	701.	0.19	0.15	0.23	0.24	0.25	10leaves2.5	2800.
BRUNSWICK	Corn	5 1	813.	0.22	0.17	0.26	0.27	0.28	12leaves 3	2700.
BRUNSWICK	Grass	4 1	1657.	0.22	0.16	0.24	0.25	0.24	Full Cover	3000.
BRUNSWICK	Potato	5 25	700.	0.10	0.08	0.12	0.13	0.15	Vegetative	2400.
BRUNSWICK	Soybean	5 25	537.	0.09	0.07	0.10	0.11	0.13	SecondNode	2550.
BRUNSWICK	Soybean	6 5	389.	0.06	0.05	0.08	0.09	0.09	SecondNode	2550.
BRUNSWICK	Wheat	4 1	1657.	0.14	0.08	0.12	0.11	0.07	Ripening	1800.
CENTRALCITY	Alfalfa	4 1	1791.	0.22	0.18	0.24	0.25	0.25	Full Cov	3000.
CENTRALCITY	Corn	5 10	798.	0.20	0.17	0.23	0.24	0.25	12leaves 3	2600.
CENTRALCITY	Corn	5 10	798.	0.20	0.17	0.23	0.24	0.25	12leaves 3	2700.
CENTRALCITY	Corn	5 10	798.	0.20	0.17	0.23	0.24	0.25	12leaves 3	2800.
CENTRALCITY	Corn	5 1	937.	0.23	0.19	0.26	0.27	0.27	14leaves3.5	2700.
CENTRALCITY	Grass	4 1	1791.	0.19	0.16	0.21	0.21	0.21	Full Cover	3000.
CENTRALCITY	Potato	5 25	781.	0.10	0.09	0.12	0.13	0.15	Vegetative	2400.
CENTRALCITY	Soybean	5 25	602.	0.09	0.08	0.11	0.12	0.14	ThirdNode	2550.
CENTRALCITY	Soybean	6 5	434.	0.07	0.06	0.08	0.08	0.09	SecondNode	2550.
CENTRALCITY	Wheat	4 1	1791.	0.07	0.03	0.03	0.02	0.01	Ripening	1800.
ELGIN	Alfalfa	4 1	1633.	0.23	0.16	0.26	0.27	0.28	Full Cov	3000.
ELGIN	Corn	5 10	676.	0.17	0.13	0.21	0.23	0.25	10leaves2.5	2600.
ELGIN	Corn	5 10	676.	0.17	0.13	0.21	0.23	0.25	10leaves2.5	2700.
ELGIN	Corn	5 10	676.	0.17	0.13	0.21	0.23	0.25	10leaves2.5	2800.
ELGIN	Corn	5 1	791.	0.21	0.15	0.24	0.27	0.29	12leaves 3	2700.
ELGIN	Grass	4 1	1633.	0.22	0.15	0.23	0.25	0.25	Full Cover	3000.
ELGIN	Potato	5 25	689.	0.09	0.07	0.11	0.13	0.15	Vegetative	2400.
ELGIN	Soybean	5 25	524.	0.08	0.06	0.10	0.11	0.13	SecondNode	2550.
ELGIN	Soybean	6 5	380.	0.06	0.05	0.08	0.09	0.10	SecondNode	2550.
ELGIN	Wheat	4 1	1633.	0.15	0.08	0.13	0.12	0.08	Stiff Dough	1800.
MEADAGROFARM	Alfalfa	4 1	1851.	0.20	0.16	0.23	0.25	0.25	Full Cov	3000.
MEADAGROFARM	Corn	5 10	824.	0.19	0.16	0.23	0.25	0.26	12leaves 3	2600.
MEADAGROFARM	Corn	5 10	824.	0.19	0.16	0.23	0.25	0.26	12leaves 3	2700.
MEADAGROFARM	Corn	5 10	824.	0.19	0.16	0.23	0.25	0.26	12leaves 3	2800.
MEADAGROFARM	Corn	5 1	964.	0.22	0.18	0.26	0.27	0.28	16leaves 4	2700.
MEADAGROFARM	Grass	4 1	1851.	0.18	0.14	0.20	0.21	0.21	Full Cover	3000.
MEADAGROFARM	Potato	5 25	774.	0.09	0.08	0.12	0.13	0.15	Vegetative	2400.
MEADAGROFARM	Soybean	5 25	603.	0.08	0.07	0.10	0.12	0.14	ThirdNode	2550.
MEADAGROFARM	Soybean	6 5	439.	0.06	0.05	0.08	0.09	0.10	SecondNode	2550.
MEADAGROFARM	Wheat	4 1	1851.	0.03	0.00	0.01	0.00	0.00	Mature	1800.
MONROE	Alfalfa	4 1	1811.	0.22	0.16	0.24	0.25	0.25	Full Cov	3000.
MONROE	Corn	5 10	792.	0.20	0.15	0.23	0.24	0.26	12leaves 3	2600.

MONROE	Corn	5	10	792.	0.20	0.15	0.23	0.24	0.26	12leaves 3	2700.
MONROE	Corn	5	10	792.	0.20	0.15	0.23	0.24	0.26	12leaves 3	2800.
MONROE	Corn	5	1	932.	0.23	0.17	0.25	0.27	0.28	14leaves3.5	2700.
MONROE	Grass	4	1	1811.	0.19	0.14	0.20	0.21	0.21	Full Cover	3000.
MONROE	Potato	5	25	773.	0.10	0.08	0.12	0.13	0.16	Vegetative	2400.
MONROE	Soybean	5	25	599.	0.09	0.07	0.11	0.12	0.14	ThirdNode	2550.
MONROE	Soybean	6	5	432.	0.07	0.05	0.08	0.08	0.09	SecondNode	2550.
MONROE	Wheat	4	1	1811.	0.05	0.01	0.02	0.01	0.01	Mature	1800.
CONCORD(NE)	Alfalfa	4	1	1635.	0.24	0.17	0.24	0.27	0.28	Full Cov	3000.
CONCORD(NE)	Corn	5	10	680.	0.18	0.14	0.20	0.23	0.25	10leaves2.5	2600.
CONCORD(NE)	Corn	5	10	680.	0.18	0.14	0.20	0.23	0.25	10leaves2.5	2700.
CONCORD(NE)	Corn	5	10	680.	0.18	0.14	0.20	0.23	0.25	10leaves2.5	2800.
CONCORD(NE)	Corn	5	1	788.	0.22	0.16	0.23	0.26	0.28	12leaves 3	2700.
CONCORD(NE)	Grass	4	1	1635.	0.22	0.16	0.22	0.24	0.24	Full Cover	3000.
CONCORD(NE)	Potato	5	25	693.	0.10	0.08	0.11	0.13	0.15	Vegetative	2400.
CONCORD(NE)	Soybean	5	25	530.	0.09	0.07	0.09	0.11	0.13	SecondNode	2550.
CONCORD(NE)	Soybean	6	5	392.	0.06	0.05	0.07	0.09	0.10	SecondNode	2550.
CONCORD(NE)	Wheat	4	1	1635.	0.15	0.09	0.12	0.11	0.08	Ripening	1800.
ONEILL	Alfalfa	4	1	1564.	0.23	0.17	0.26	0.27	0.26	Full Cov	3000.
ONEILL	Corn	5	10	637.	0.16	0.13	0.20	0.21	0.22	10leaves2.5	2600.
ONEILL	Corn	5	10	637.	0.16	0.13	0.20	0.21	0.22	10leaves2.5	2700.
ONEILL	Corn	5	10	637.	0.16	0.13	0.20	0.21	0.22	10leaves2.5	2800.
ONEILL	Corn	5	1	747.	0.20	0.15	0.24	0.25	0.26	12leaves 3	2700.
ONEILL	Grass	4	1	1564.	0.22	0.16	0.25	0.25	0.24	Full Cover	3000.
ONEILL	Potato	5	25	644.	0.09	0.07	0.11	0.11	0.13	Vegetative	2400.
ONEILL	Soybean	5	25	485.	0.08	0.06	0.09	0.10	0.11	SecondNode	2550.
ONEILL	Soybean	6	5	350.	0.05	0.04	0.07	0.08	0.08	FirstNode	2550.
ONEILL	Wheat	4	1	1564.	0.18	0.11	0.17	0.16	0.12	Stiff Dough	1800.
WESTPOINT	Alfalfa	4	1	1743.	0.22	0.17	0.25	0.26	0.26	Full Cov	3000.
WESTPOINT	Corn	5	10	760.	0.19	0.16	0.24	0.25	0.26	12leaves 3	2600.
WESTPOINT	Corn	5	10	760.	0.19	0.16	0.24	0.25	0.26	12leaves 3	2700.
WESTPOINT	Corn	5	10	760.	0.19	0.16	0.24	0.25	0.26	12leaves 3	2800.
WESTPOINT	Corn	5	1	873.	0.22	0.18	0.26	0.28	0.28	14leaves3.5	2700.
WESTPOINT	Grass	4	1	1743.	0.20	0.15	0.23	0.23	0.22	Full Cover	3000.
WESTPOINT	Potato	5	25	750.	0.10	0.08	0.13	0.14	0.15	Vegetative	2400.
WESTPOINT	Soybean	5	25	579.	0.08	0.07	0.11	0.12	0.14	ThirdNode	2550.
WESTPOINT	Soybean	6	5	423.	0.06	0.06	0.08	0.09	0.10	SecondNode	2550.
WESTPOINT	Wheat	4	1	1743.	0.09	0.05	0.06	0.05	0.03	Ripening	1800.
YORK	Alfalfa	4	1	1822.	0.20	0.17	0.22	0.24	0.25	Full Cov	3000.
YORK	Corn	5	10	816.	0.19	0.17	0.21	0.24	0.26	12leaves 3	2600.
YORK	Corn	5	10	816.	0.19	0.17	0.21	0.24	0.26	12leaves 3	2700.
YORK	Corn	5	10	816.	0.19	0.17	0.21	0.24	0.26	12leaves 3	2800.
YORK	Corn	5	1	953.	0.21	0.19	0.24	0.26	0.27	14leaves3.5	2700.
YORK	Grass	4	1	1822.	0.18	0.15	0.19	0.20	0.21	Full Cover	3000.
YORK	Potato	5	25	777.	0.09	0.09	0.11	0.13	0.15	Vegetative	2400.
YORK	Soybean	5	25	604.	0.08	0.08	0.10	0.12	0.14	ThirdNode	2550.
YORK	Soybean	6	5	439.	0.06	0.06	0.07	0.08	0.09	SecondNode	2550.
YORK	Wheat	4	1	1822.	0.04	0.01	0.02	0.01	0.01	Mature	1800.
BERESFORD	Alfalfa	4	1	1655.	0.20	0.16	0.21	0.23	0.25	Full Cov	3000.
BERESFORD	Corn	5	10	697.	0.16	0.13	0.18	0.20	0.23	10leaves2.5	2600.
BERESFORD	Corn	5	10	697.	0.16	0.13	0.18	0.20	0.23	10leaves2.5	2700.
BERESFORD	Corn	5	10	697.	0.16	0.13	0.18	0.20	0.23	10leaves2.5	2800.
BERESFORD	Corn	5	1	805.	0.19	0.16	0.20	0.23	0.25	12leaves 3	2700.
BERESFORD	Grass	4	1	1655.	0.19	0.15	0.19	0.21	0.22	Full Cover	3000.
BERESFORD	Potato	5	25	700.	0.08	0.07	0.09	0.11	0.13	Vegetative	2400.
BERESFORD	Soybean	5	25	538.	0.07	0.06	0.08	0.09	0.11	SecondNode	2550.
BERESFORD	Soybean	6	5	396.	0.06	0.05	0.06	0.08	0.09	SecondNode	2550.
BERESFORD	Wheat	4	1	1655.	0.12	0.08	0.09	0.09	0.06	Ripening	1800.