Irrigation

The Irrigation module is currently available on the AgFleet Version 3 (V3.0) web site. This module is designed to support agricultural research, advising, planning, and decision making. The web-based, Grower Irrigation schedule has many advantages, including the ability to enter your own precipitation and irrigation amounts and the seasonal record keeping of your irrigation practices. The AgFleeț Irrigation Schedule module utilizes a number of products that allow users to both track their irrigation and to plan future applications during the growing season.

Throughout the module, the page header is used as a navigation bar to select location and the desired Irrigation component.

Description of the Irrigation Schedule

The AgFleet Irrigation Schedule is based on the “water budget” method. In its simplest form, the water budget adds precipitation and subtracts soil evaporation and crop transpiration to compute the daily available water in the soil. The combined soil evaporation and crop transpiration are commonly referred to as “evapotranspiration.” The budgeted available water fluctuates between a maximum (field capacity) value that is determined from the root zone, an intermediate value marking the beginning of stress, and a lower value marking the maximum deficit (or value). When the available water drops below the lower value or exceeds the maximum deficit, irrigation is scheduled to replenish the available water back to its maximum (field capacity) value. The value for the maximum deficit depends on the irrigation method and frequency. For each crop, there are three scheduling frequencies (low, mid, and high) to cover the range of water application methods and equipment.

While the water budget method is at its core, the irrigation schedule is a bit more sophisticated in the way it determines the maximum available water and in the way it handles the weather inputs. First, there is a crop development model to adjust the root zone throughout the season. The root zone determines the maximum available water in the soil. The crop development model is sensitive to the prevailing weather conditions and the time of year. Second, an “effective” precipitation is calculated according to the amount of moisture entering the soil. While a certain amount of precipitation may reach the surface, only a fraction of that total replenishes the soil available water. Third, the evapotranspiration is calculated based on the crop stage, soil moisture, and the prevailing weather conditions. The incorporation of weather “feedbacks” in the inputs makes for more realistic estimates of the water added and lost from the soil water budget.

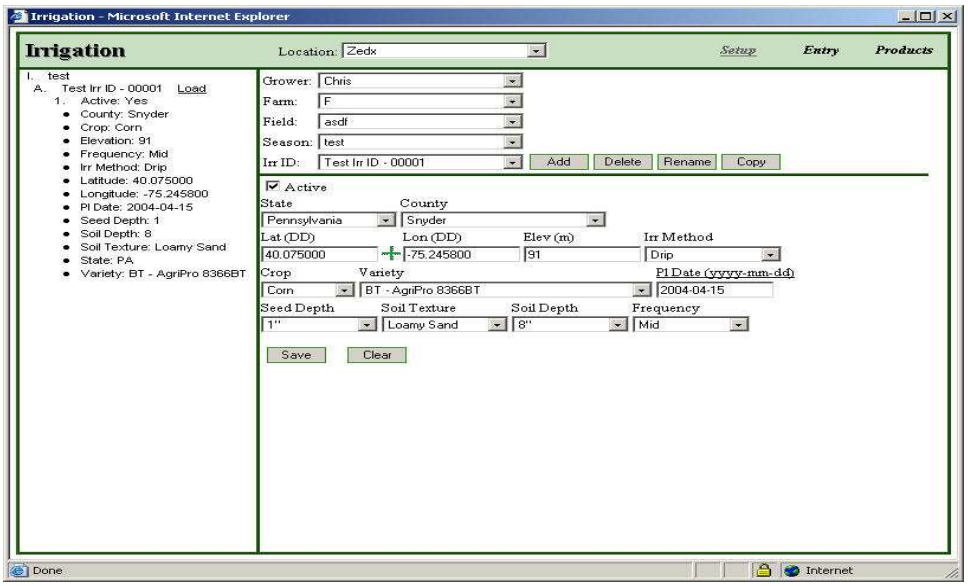
In each crop schedule, the weather, soil, and irrigation variables are presented as absolute values. The decreasing or increasing available water, in inches, can be tracked relative to maximum, stress, and minimum values. The same fluctuation in the available water can be translated into daily and accumulated soil moisture deficits, and their equivalents as irrigation applications.

Agfleet Irrigation Schedules are currently available for a number of grain and vegetable crops.

Setup

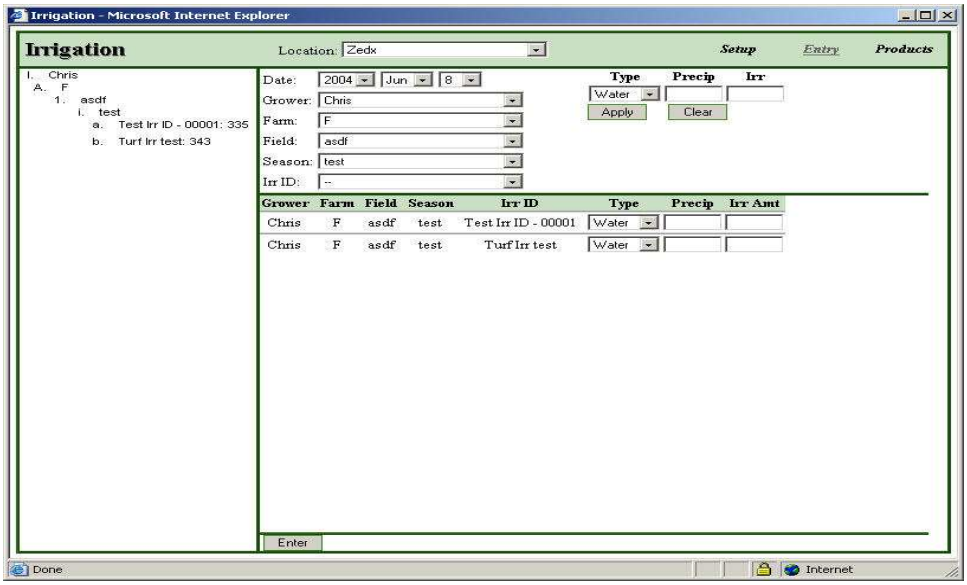
Setup of the Irrigation Schedule is built off of Growers, Farms, Fields, and Seasons already established by utilizing the Data Manager module. Once the appropriate Grower, Farm, Field and Season has been selected, an Irrigation ID may be created by clicking on the *Add* button next to the Irr ID select box. A window will pop up prompting you to enter the name of the Irr ID. Click on *OK* to add the new Irrigation ID. Irrigation ID's may also be deleted, renamed and copied by clicking on the corresponding buttons (*Delete, Rename, Copy*). Next, the State, County, Irrigation Method, Crop, Variety, Seed Depth, Soil Texture, Soil Depth and Frequency may be selected. The Latitude, Longitude, Elevation, and Plant Date may be entered (please note that the Longitude should be entered as a negative number in the Western Hemisphere). Plant Date should be entered in the following format: YYYY-MM-DD. There is an Active checkbox to set the Irrigation ID to active or inactive. Click on *Save* to save the Irrigation ID data record.

An Irrigation ID data record may be modified by clicking on the *Load* button in the left frame to display the data in the setup form on the right. Now, make the necessary changes to the setup information, and then click on *Save* to update the data record.



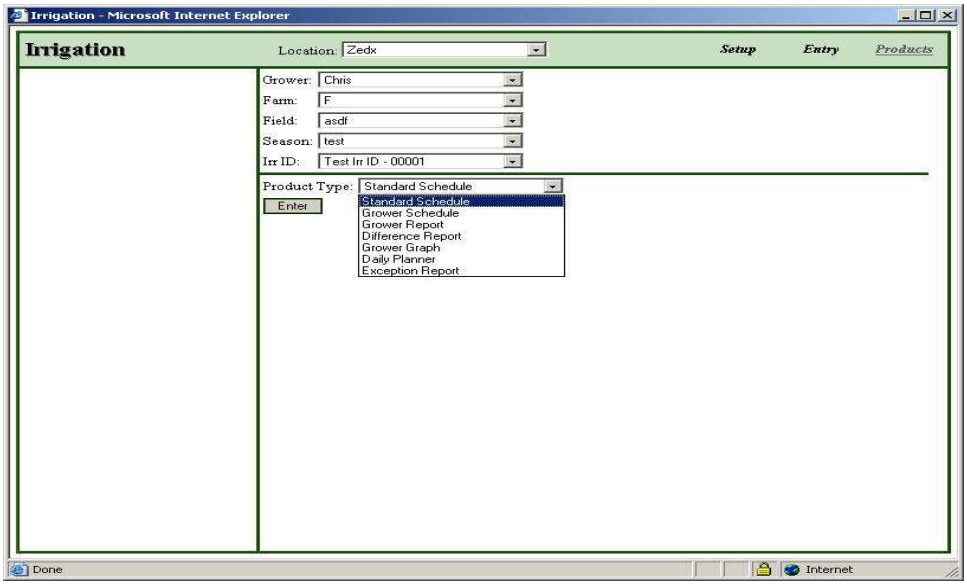
Entry

This page is for entry of actual precipitation and irrigation amounts for a particular Irrigation ID. Grower, Farm, Field, Season and Irr ID may be selected as well as a Date. A date needs to be selected because historical data may also be entered. Type of Irrigation may be selected as either water or manure. Irrigation Type, Precipitation Amount, and Irrigation Amount can be made on two levels. Click on *Apply* to save the upper level selection of type and amounts to all the active Irrigation ID's displayed in the lower level. The lower level selection of irrigation type and amounts only apply to the corresponding Irrigation ID. Click on *Enter* to save any new or modified irrigation entry data. Please note that an information tree will also be displayed in the left frame.



Products

This page has a profile selection like the Setup and Entry page. Selection of Grower, Farm , Field, Season and Irr ID may be made. Choose one of the following product types and click on the *Enter* button to display the Irrigation product: Standard Schedule, Grower Schedule, Grower Report, Difference Report, Grower Graph, Daily Planner and Exception Report.



1. Standard Schedule

The Standard Schedule is a product which specifies irrigation amounts based off of projected precipitation events.

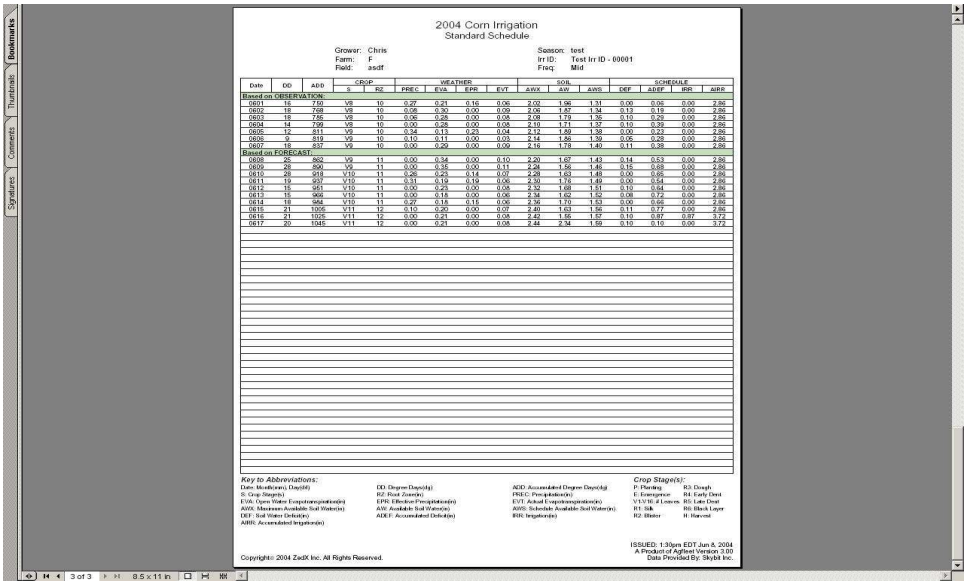
In this product format, the data is divided into observation data (starting ten days prior to planting) and ten days of forecast data. The product displays column headings for Date, Degree Day (DD), Accumulated Degree Day (ADD), CROP, WEATHER, SOIL and SCHEDULE. There are sub headings under CROP, WEATHER, SOIL, and SCHEDULE. The subheading variables and their units are identified in a key at the bottom of the report.

Under the CROP heading, column four shows crop stage (S). Column five shows root zone (RZ) as depth in inches. The root zone depth varies as a function of the prevailing weather conditions and crop development. It determines the maximum available water in the soil.

Under the WEATHER heading, columns six and seven list precipitation (PREC) and open water evaporation (EVA) in inches. In the “Based on OBSERVATION:” section, the observed precipitation is a simulated value, which will on most occasions differ from local measurements. The observed open water evaporation is also simulated; but being a conservative variable, it will be close to actual amounts. In the “Based on FORECAST:” section, the predicted precipitation and open water evaporation are forecasts, which will differ from observations. The effective precipitation (EPR) and the actual evapotranspiration (EVT) are listed in columns eight and nine. They represent the adjusted amounts of moisture being added to and subtracted from the soil water.

There are three soil moisture variables in columns ten through twelve under the SOIL heading. They are the maximum available water (AWX), available water (AW), and the schedule available water (AWS). The minimum available water, which is the permanent wilting point, is not listed but is defined as the available water at 0 inches. That is, there is no water available for the crop. The available water (AW) fluctuates on a daily basis between maximum and the minimum value. Depending on a grower’s irrigation practices, it will trend below and above the stress value.

Under the SCHEDULE heading, columns thirteen and fourteen are the soil moisture deficit (DEF) and accumulated deficit (ADEF) in inches. These variables track the daily and accumulated losses from the soil that must be replenished by irrigation. The amount of required irrigation (IRR) and the accumulated irrigation (AIRR) over a season are shown in columns fifteen and sixteen. The accumulated irrigation (AIRR) tracks the total amount of irrigated water added to a field during the growing season. See the following report for an example of the Standard Schedule product.



2004 Corn Irrigation
Standard Schedule

Grower: Chris
Farm: F
Field: asdf

Season: test
Irr ID: Test Irr ID - 00001
Freq: Mid

Date	DD	ADD	CROP		WEATHER				SOIL			SCHEDULE			
			S	RZ	PREC	EVA	EPR	EVT	AWX	AW	AWS	DEF	ADEF	IRR	AIRR
Based on OBSERVATION:															
0601	16	760	V9	10	0.27	0.21	0.16	0.06	2.02	1.96	1.31	0.00	0.00	0.00	2.86
0602	18	768	V9	10	0.06	0.30	0.00	0.09	2.06	1.87	1.34	0.13	0.19	0.00	2.86
0603	18	786	V9	10	0.06	0.28	0.00	0.08	2.08	1.79	1.35	0.10	0.29	0.00	2.86
0604	14	799	V9	10	0.00	0.26	0.00	0.08	2.10	1.71	1.37	0.10	0.39	0.00	2.86
0605	12	811	V9	10	0.34	0.13	0.23	0.04	2.12	1.89	1.38	0.00	0.23	0.00	2.86
0606	9	819	V9	10	0.10	0.11	0.00	0.03	2.14	1.86	1.39	0.05	0.28	0.00	2.86
0607	18	837	V9	10	0.00	0.29	0.00	0.09	2.16	1.78	1.40	0.11	0.38	0.00	2.86
Based on FORECAST:															
0608	25	862	V9	11	0.00	0.34	0.00	0.10	2.20	1.67	1.43	0.14	0.53	0.00	2.86
0609	28	890	V9	11	0.00	0.35	0.00	0.11	2.24	1.56	1.46	0.15	0.68	0.00	2.86
0610	28	918	V10	11	0.26	0.23	0.14	0.07	2.28	1.63	1.48	0.00	0.65	0.00	2.86
0611	19	937	V10	11	0.31	0.19	0.19	0.06	2.30	1.76	1.49	0.00	0.54	0.00	2.86
0612	15	951	V10	11	0.00	0.25	0.00	0.08	2.32	1.68	1.51	0.10	0.64	0.00	2.86
0613	15	966	V10	11	0.00	0.18	0.00	0.06	2.34	1.62	1.52	0.08	0.72	0.00	2.86
0614	18	984	V10	11	0.27	0.16	0.15	0.06	2.36	1.70	1.53	0.00	0.66	0.00	2.86
0615	21	1005	V11	12	0.10	0.20	0.00	0.07	2.40	1.63	1.56	0.11	0.77	0.00	2.86
0616	21	1025	V11	12	0.00	0.21	0.00	0.08	2.42	1.55	1.57	0.10	0.87	0.87	5.72
0617	20	1045	V11	12	0.00	0.21	0.00	0.08	2.44	2.34	1.59	0.10	0.10	0.00	5.72

Key to Abbreviations:
Date, Month(mm), Day(dd)
S: Crop Stage(s)
EVA: Open Water Evapotranspiration(in)
AWX: Maximum Available Soil Water(in)
DEF: Soil Water Deficit(in)
AIRR: Accumulated Irrigation(in)
DD: Degree Days(d)
RZ: Root Zone(in)
EPR: Effective Precipitation(in)
AW: Available Soil Water(in)
ADEF: Accumulated Deficit(in)
ADD: Accumulated Degree Days(d)
PREC: Precipitation(in)
EVT: Actual Evapotranspiration(in)
AWS: Schedule Available Soil Water(in)
IRR: Irrigation(in)

Crop Stage(s):
P: Planting
E: Emergence
V1/V10: # Leaves
R1: Silk
R2: Blister
R3: Dough
R4: Early Dent
R5: Late Dent
R6: Black Layer
H: Harvest

ISSUED: 1:30pm EDT Jun 8, 2004
A Product of AgNext Version 3.00
Data Provided By: Skylnt Inc.

2. Grower Schedule

The Grower Schedule is a product which specifies irrigation amounts based off of projected precipitation events and is adjusted for grower irrigation and grower specified precipitation events.

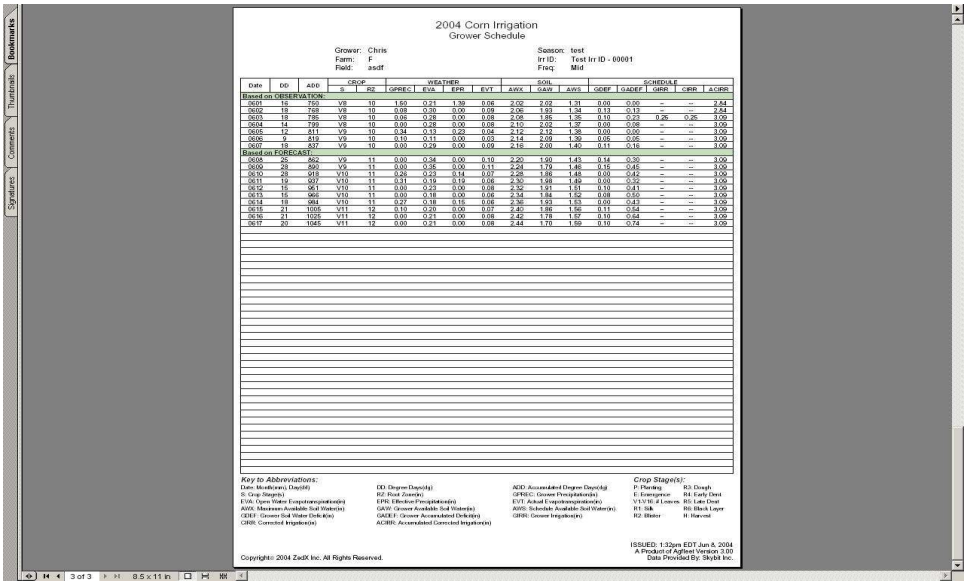
In this product format, the data is divided into observation data (starting ten days prior to planting) and ten days of forecast data. The product displays column headings for Date, Degree Day (DD), Accumulated Degree Day (ADD), CROP, WEATHER, SOIL and SCHEDULE. There are sub headings under CROP, WEATHER, SOIL, and SCHEDULE. The subheading variables and their units are identified in a key at the bottom of the report.

Under the CROP heading, column four shows crop stage (S). Column five gives root zone (RZ) as a depth in inches. The root zone depth varies as a function of the prevailing weather conditions and crop development. It determines the maximum available water in the soil.

Under the WEATHER heading, columns six and seven list Grower precipitation (GPREC) and open water evaporation (EVA) in inches. In the "Based on OBSERVATION:" section, the observed precipitation is a simulated value, which will on most occasions differ from local measurements. Grower precipitation values may also have been entered by the grower via the Entry page. The observed open water evaporation is simulated; but being a conservative variable, it will be close to actual amounts. In the "Based on FORECAST:" section, the predicted precipitation and open water evaporation are forecasts, which will differ from observations. The effective precipitation (EPR) and the actual evapotranspiration (EVT) are listed in columns eight and nine. They represent the adjusted amounts of moisture being added to and subtracted from the soil water.

Like the Standard Schedule, the Grower Schedule product has three soil moisture variables under the SOIL heading. They are the maximum available water (AWX) in column ten, grower available water (GAW) in column eleven, and the schedule available water (AWS) in column twelve.

Under the SCHEDULE heading, columns thirteen and fourteen are the grower soil moisture deficit (GDEF) and grower accumulated deficit (GADEF) in inches. These variables track the daily and accumulated losses from the soil that must be replenished by irrigation. The amount of grower irrigation (GIRR), corrected irrigation (CIRR), and the accumulated corrected irrigation (ACIRR) over a season are shown in columns fifteen, sixteen and seventeen. Corrected irrigation is the amount of irrigation added to correct the grower accumulated deficit. The accumulated corrected irrigation (ACIRR) tracks the total amount of corrected irrigation added to a field during the growing season. See the following report for an example of the Grower Schedule product.



2004 Corn Irrigation
Grower Schedule

Grower: Chris
Farm: F
Field: asdf

Season: test
Irr ID: Test Irr ID - 00001
Freq: Mid

Date	DD	ADD	CROP	WEATHER				SOIL			SCHEDULE				
			S	RZ	GPREC	EVA	EPR	EVT	AWX	GAW	AWS	GDEF	GADEF	GIRR	CIRR	ACIRR
Based on OBSERVATION:																
0601	16	750	V8	10	1.50	0.21	1.39	0.06	2.02	2.02	1.31	0.00	0.00	--	--	2.64
0602	18	768	V8	10	0.08	0.30	0.00	0.09	2.06	1.93	1.34	0.13	0.13	--	--	2.64
0603	18	786	V8	10	0.06	0.28	0.00	0.08	2.08	1.85	1.35	0.10	0.23	0.25	0.25	3.09
0604	14	799	V8	10	0.00	0.28	0.00	0.08	2.10	2.02	1.37	0.00	0.08	--	--	3.09
0605	12	811	V9	10	0.34	0.13	0.23	0.04	2.12	2.12	1.36	0.00	0.00	--	--	3.09
0606	9	819	V9	10	0.10	0.11	0.00	0.03	2.14	2.09	1.39	0.05	0.05	--	--	3.09
0607	18	837	V9	10	0.00	0.29	0.00	0.09	2.16	2.00	1.40	0.11	0.16	--	--	3.09
Based on FORECAST:																
0608	25	862	V9	11	0.00	0.34	0.00	0.10	2.20	1.90	1.43	0.14	0.30	--	--	3.09
0609	28	890	V9	11	0.00	0.35	0.00	0.11	2.24	1.79	1.46	0.15	0.45	--	--	3.09
0610	28	918	V10	11	0.26	0.23	0.14	0.07	2.28	1.86	1.48	0.00	0.42	--	--	3.09
0611	19	937	V10	11	0.31	0.19	0.19	0.06	2.30	1.98	1.49	0.00	0.32	--	--	3.09
0612	15	951	V10	11	0.00	0.23	0.00	0.08	2.32	1.91	1.51	0.10	0.41	--	--	3.09
0613	15	966	V10	11	0.00	0.18	0.00	0.06	2.34	1.84	1.52	0.08	0.50	--	--	3.09
0614	18	984	V10	11	0.27	0.18	0.15	0.06	2.36	1.93	1.53	0.00	0.43	--	--	3.09
0615	21	1005	V11	12	0.10	0.25	0.00	0.07	2.40	1.86	1.56	0.11	0.54	--	--	3.09
0616	21	1025	V11	12	0.00	0.21	0.00	0.08	2.42	1.78	1.57	0.10	0.64	--	--	3.09
0617	20	1045	V11	12	0.00	0.21	0.00	0.08	2.44	1.70	1.59	0.10	0.74	--	--	3.09

Key to Abbreviations:
Date: Month(mo), Day(dd)
S: Crop Stage(s)
EVA: Open Water Evapotranspiration(in)
AWX: Maximum Available Soil Water(in)
CERT: Grower Soil Water Deficit(in)
CIRR: Corrected Irrigation(in)

DD: Degree Days(dy)
RZ: Root Zone(in)
EPR: Effective Precipitation(in)
GAW: Grower Available Soil Water(in)
GADEF: Grower Accumulated Deficit(in)
ACIRR: Accumulated Corrected Irrigation(in)

ADD: Accumulated Degree Days(dy)
GPREC: Grower Precipitation(in)
EVT: Actual Evapotranspiration(in)
AWS: Schedule Available Soil Water(in)
GIRR: Grower Irrigation(in)

Crop Stage(s):
P: Planting
E: Emergence
V1/V16: # Leaves
R1: Silk
R2: Blister
R3: Dough
R4: Early Dent
R5: Late Dent
R6: Black Layer
H: Harvest

ISSUED: 1:32pm EDT Jun 8, 2004
A Product of AgNext Version 3.00
Data Provided By: Skylit Inc.

3. Grower Report

The Grower Report is a product which specifies grower irrigation and grower precipitation events.

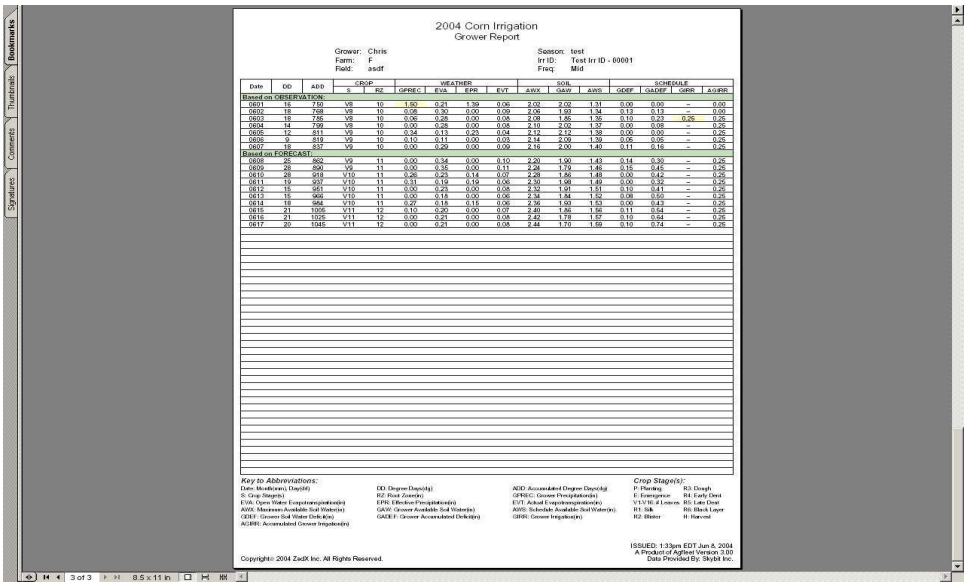
In this product format, the data is divided into observation data (starting ten days prior to planting) and ten days of forecast data. The product displays column headings for Date, Degree Day (DD), Accumulated Degree Day (ADD), CROP, WEATHER, SOIL and SCHEDULE. There are sub headings under CROP, WEATHER, SOIL, and SCHEDULE. The subheading variables and their units are identified in a key at the bottom of the report.

Under the CROP heading, column four shows crop stage (S). Column five gives root zone (RZ) as a depth in inches. The root zone depth varies as a function of the prevailing weather conditions and crop development. It determines the maximum available water in the soil.

Under the WEATHER heading, columns six and seven list Grower precipitation (GPREC) and open water evaporation (EVA) in inches. In the "Based on OBSERVATION:" section, the observed precipitation is a simulated value, which will on most occasions differ from local measurements. Grower precipitation values may have been entered by the grower via the Entry page. The observed open water evaporation is simulated; but being a conservative variable, it will be close to actual amounts. In the "Based on FORECAST:" section, the predicted precipitation and open water evaporation are forecasts, which will differ from observations. The effective precipitation (EPR) and the actual evapotranspiration (EVT) are listed in columns eight and nine. They represent the adjusted amounts of moisture being added to and and subtracted from the soil water.

Like the Standard Schedule, the Grower Report product has three soil moisture variables under the SOIL heading. They are the maximum available water (AWX) in column ten, grower available water (GAW) in column eleven, and the schedule available water (AWS) in column twelve.

Under the SCHEDULE heading, columns thirteen and fourteen are the grower soil moisture deficit (GDEF) and grower accumulated deficit (GADEF) in inches. These variables track the daily and accumulated losses from the soil that must be replenished by irrigation. The amount of grower irrigation (GIRR), and the accumulated grower irrigation (AGIRR) over a season are shown in columns fifteen and sixteen. The accumulated grower irrigation (AGIRR) tracks the total amount of grower irrigation added to a field during the growing season. See the following report for an example of the Grower Report product.



2004 Corn Irrigation
Grower Report

Grower: Chris
Farm: F
Field: asdf

Season: test
Irr ID: Test Irr ID - 00001
Freq: Mid

Date	DD	ADD	CROP		WEATHER				SOIL			SCHEDULE			
			S	RZ	GPREC	EVA	EPR	EVT	AWX	GAW	AWS	GDEF	GADEF	GIRR	AGIRR
Based on OBSERVATION:															
0601	16	750	V8	10	1.60	0.21	1.39	0.06	2.02	2.02	1.31	0.00	0.00	–	0.00
0602	18	768	V8	10	0.08	0.30	0.00	0.09	2.06	1.93	1.34	0.13	0.13	–	0.00
0603	18	786	V8	10	0.06	0.28	0.00	0.05	2.08	1.85	1.36	0.10	0.23	0.25	0.25
0604	14	799	V8	10	0.00	0.26	0.00	0.05	2.10	2.02	1.37	0.00	0.08	–	0.25
0605	12	811	V8	10	0.34	0.13	0.23	0.04	2.12	2.12	1.38	0.00	0.00	–	0.25
0606	9	819	V9	10	0.10	0.11	0.00	0.03	2.14	2.09	1.39	0.06	0.06	–	0.25
0607	18	837	V9	10	0.00	0.29	0.00	0.09	2.16	2.00	1.40	0.11	0.16	–	0.25
Based on FORECAST:															
0608	25	862	V9	11	0.00	0.34	0.00	0.10	2.20	1.90	1.43	0.14	0.30	–	0.25
0609	28	890	V9	11	0.00	0.35	0.00	0.11	2.24	1.79	1.46	0.15	0.45	–	0.25
0610	28	918	V10	11	0.26	0.23	0.14	0.07	2.28	1.56	1.48	0.00	0.42	–	0.25
0611	19	937	V10	11	0.31	0.19	0.19	0.06	2.30	1.98	1.49	0.00	0.32	–	0.25
0612	15	951	V10	11	0.00	0.23	0.00	0.06	2.32	1.91	1.51	0.10	0.41	–	0.25
0613	15	966	V10	11	0.00	0.15	0.00	0.06	2.34	1.84	1.52	0.08	0.50	–	0.25
0614	18	984	V10	11	0.27	0.15	0.15	0.06	2.36	1.93	1.53	0.00	0.43	–	0.25
0615	21	1005	V11	12	0.10	0.20	0.00	0.07	2.40	1.86	1.56	0.11	0.54	–	0.25
0616	21	1025	V11	12	0.00	0.21	0.00	0.08	2.42	1.78	1.57	0.10	0.64	–	0.25
0617	20	1045	V11	12	0.00	0.21	0.00	0.08	2.44	1.70	1.59	0.10	0.74	–	0.25

Key to Abbreviations:
Date: Month(cam), Day(dd)
S: Crop Stage(s)
EVA: Open Water Evapotranspiration(in)
AWX: Maximum Available Soil Water(in)
GDEF: Grower Soil Water Deficit(in)
AGIRR: Accumulated Grower Irrigation(in)
DD: Degree Days(d)
RZ: Root Zone(in)
EPR: Effective Precipitation(in)
GAW: Grower Available Soil Water(in)
GADEF: Grower Accumulated Deficit(in)
ADD: Accumulated Degree Days(d)
GPREC: Grower Precipitation(in)
EVT: Actual Evapotranspiration(in)
AWS: Schedule Available Soil Water(in)
GIRR: Grower Irrigation(in)

Crop Stage(s):
P: Planting
E: Emergence
V1/V16: # Leaves
R1: Silk
R2: Blister
R3: Dough
R4: Early Dent
R5: Late Dent
R6: Black Layer
H: Harvest

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A Product of AgNet Version 3.00
Data Provided By: Skybit Inc.

4. Difference Report

The Difference Report is a product which specifies differences between predicted precipitation and actual precipitation and also between suggested irrigation and actual irrigation.

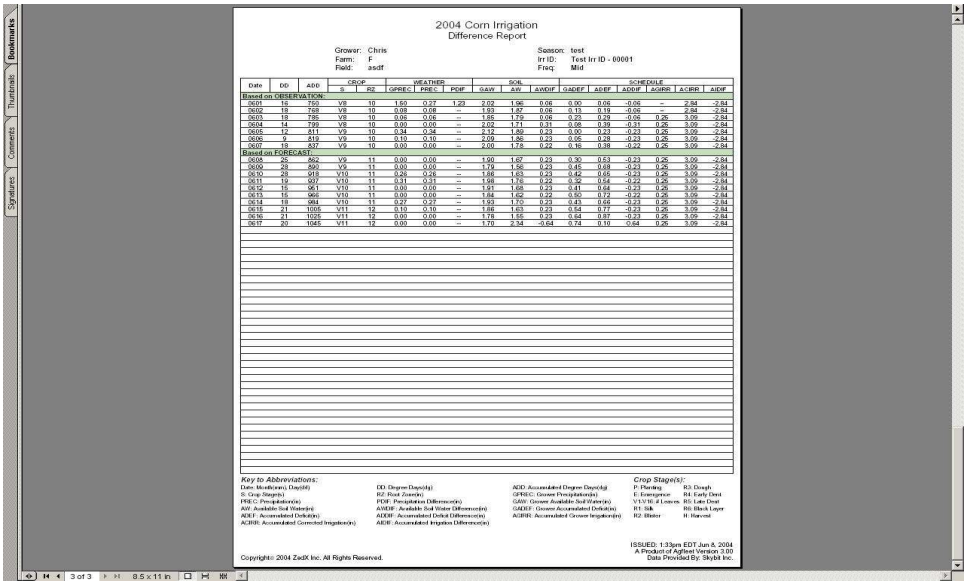
In this product format, the data is divided into observation data (starting ten days prior to planting) and ten days of forecast data. The product displays column headings for Date, Degree Day (DD), Accumulated Degree Day (ADD), CROP, WEATHER, SOIL and SCHEDULE. There are sub headings under CROP, WEATHER, SOIL, and SCHEDULE. The subheading variables and their units are identified in a key at the bottom of the report.

Under the CROP heading, column four shows crop stage (S). Column five gives root zone (RZ) as a depth in inches. The root zone depth varies as a function of the prevailing weather conditions and crop development. It determines the maximum available water in the soil.

Under the WEATHER heading, columns six and seven list grower precipitation (GPREC) and precipitation (PREC) in inches. In the "Based on OBSERVATION:" section, the observed precipitation is a simulated value, which will on most occasions differ from local measurements. Grower precipitation values may have been entered by the grower via the Entry page. The precipitation difference (PDIF) in column eight is the difference between precipitation and grower entered local precipitation.

The Differences Report product has three soil moisture variables under the SOIL heading. They are the grower available water (GAW) in column nine, available water (AW) in column ten, and the available water difference (AWDIF) in column eleven.

Under the SCHEDULE heading, columns twelve and thirteen are the grower accumulated deficit (GADEF) and the accumulated deficit (ADEF) in inches. These variables track the daily and accumulated losses from the soil that must be replenished by irrigation. The accumulated deficit difference (ADDIF) in column fourteen is the difference between grower accumulated deficit and accumulated deficit. The amount of accumulated grower irrigation (AGIRR), and the accumulated corrected irrigation (ACIRR) over a season are shown in columns fifteen and sixteen. The accumulated irrigation difference (AIDIF) in column seventeen is the difference between accumulated grower irrigation and accumulated corrected irrigation. See the following report for an example of the Difference Report product.



5. Grower Graph

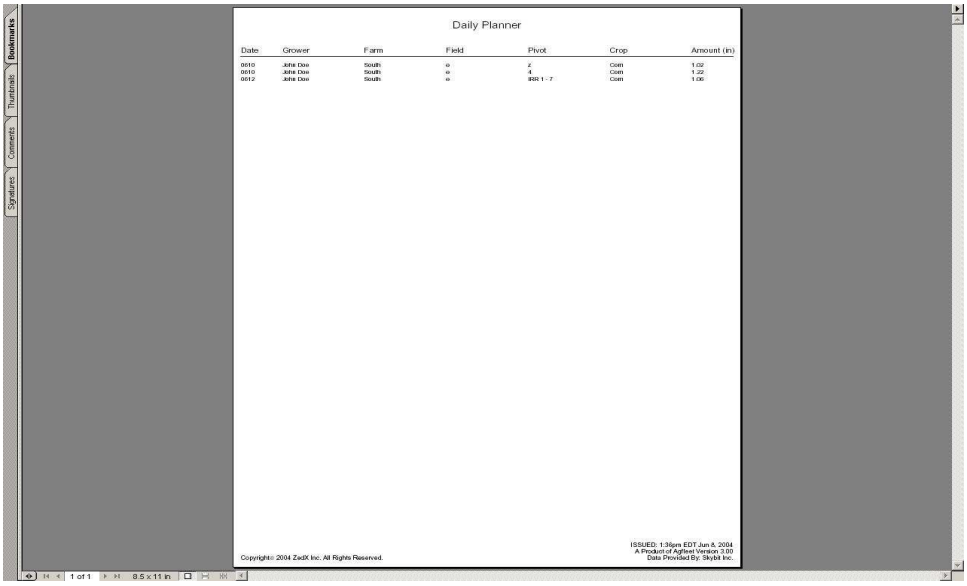
The Grower Graph displays identical information to that in the Grower Report except a graph is added representing %Grower Available Water and stress levels appropriate to the crop. Data in this product is limited to ten days of observations and ten days of forecast.

The graph in this product provides an easy visualization of the day-to-day changes of the grower available water (GAW). The graph displays the date across the bottom or “x” axis and the available soil moisture as a percent along the side or “y” axis. The fluctuating grower available water changes from a blue line, indicating available water calculations based on observations, to a green line indicating calculations based on forecasts. The grower available water is set against a gold line marking the minimum stress available water (AWS) and a red line marking the maximum stress available water. The “0 %” available water, at the bottom of the graph, marks the permanent wilting point. The graph in the Grower Graph product provides a grower a daily reminder of each field’s crop water status both currently and in the near future. See the following graph for an example of the Grower Graph product.

6. Daily Planner

The Daily Planner product shows projected irrigation events for the Growers, Farms, or Fields selected in the order of irrigation date. Columns included are Date, Grower, Farm, Field, Pivot, Crop and Amount. Amount is the forecasted grower accumulated soil water deficit or corrected irrigation value in inches.

See the following report for an example of the Daily Planner product.



7. Exception Report

The Exception Report shows % Grower Available Water (GAW) for the Growers, Farms, or Fields selected in the order of %GAW. Columns included are Grower, Farm, Field, Pivot, and Grower Available Water (GAW).

See the following report for an example of the Exception Report product.