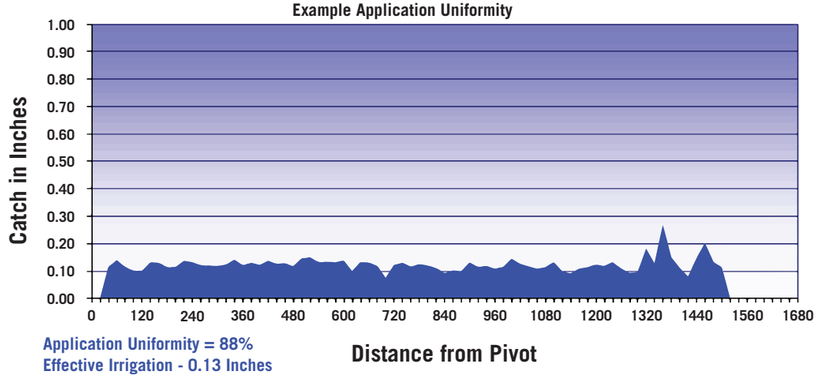
GOOD RESULTS

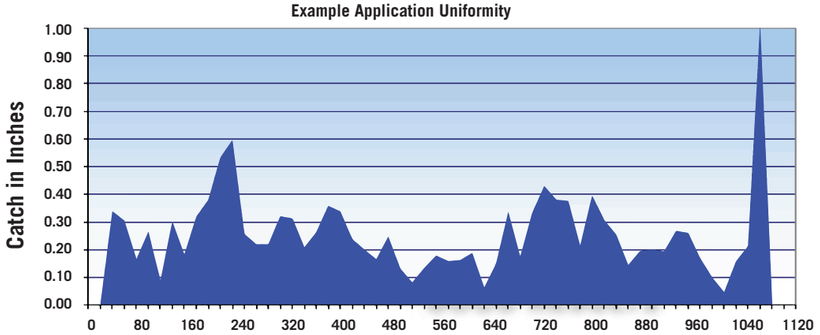
Example Application Uniformity



Application Uniformity = 88%
Effective Irrigation - 0.13 Inches

POOR RESULTS

Example Application Uniformity



Application Uniformity = 56%
Effective Irrigation - 0.28 Inches

Basic Interpretation of Uniformity Coefficients

(can be applied to either Christiansen or Heerman & Hein calculations)

90 to 100	Excellent; no changes required
85 to 90	Good; no changes required unless a problem area is obvious
80 to 85	Fair; no improvements needed, but system should be monitored closely
Below 80	Poor; improvements needed, particularly if chemicals are to be injected

Possible Causes of Poor Uniformity

Common Problems	Corrective Measures
Clogged nozzles	Remove and clean nozzles
Sprinklers not turning	Repair sprinklers and check for inadequate pressure
Inadequate system pressure**	Increase pressure if possible
Towers containing leaky boots or stuck open drain plugs	Replace gasket, boots, or drain plugs
Sprinkler in wrong order**	Obtain printout from manufacturer and install sprinklers correctly
End gun not adjusted properly	Adjust part circle stops on end gun
Wrong end gun nozzle**	Place correct nozzle on end gun
Worn nozzles**	Replace sprinkler nozzles
Excessive wind*	Check uniformity while wind velocity is low

** It is not recommended to conduct a uniformity catch can test when wind velocities exceed 10 mph. Winds should be less than 5 mph to obtain representative results.*
*** These items may need irrigation dealer input.*

UNIVERSITY OF GEORGIA EXTENSION

IRRIGATION REFERENCE GUIDE

CORN, COTTON, PEANUTS, AND SOYBEANS

Wesley Porter, UGA Cooperative Extension Irrigation Specialist

Please remember when you are following these irrigation scheduling curves that they are developed based upon historical average evapotranspiration (ET) values and are not truly representative of individual years or individual weeks within a production season. They should be used as guides and with caution. You should track irrigation and rainfall to determine the crop requirements and make a decision on the amount of irrigation to apply based on irrigation efficiency and current weather conditions.

This means that hotter and drier weather would cause higher ET amounts requiring higher amounts of irrigation, and cooler and cloudier weather would cause lower ET amounts requiring less irrigation. In addition, always take into consideration your soil's infiltration rate and water holding capacity during irrigation and heavy rainfall events—the maximum amount of water your soil can infiltrate and store—when calculating the inches per day required. It is recommended that a rain gauge be used with these curves for accurate rainfall amounts and aiding in irrigation scheduling.

In addition, advanced methods such as the SmartIrrigation Apps, PeanutFARM.org, Irrigator Pro, or moisture sensors could be used to estimate actual crop water needs.

For more information on irrigation scheduling, contact your county Extension agent.

THE IMPORTANCE OF PIVOT APPLICATION UNIFORMITY

David Hall, UGA Extension Water Educator

A farm's return on investment is directly affected by the way water is applied to its crops. The wrong end-gun settings can result in overwatering or underwatering large portions of field acres. Clogged or partially clogged nozzles lead to obvious water shortages that can be visually observed or measured using yield monitors.

Systems not properly checked and maintained can lead to significant losses in potential income. The uniformity graphs provided to producers can represent efficient or poorly performing systems (see back cover).

By request, UGA Extension's Mobile Irrigation Lab (MIL) program can set up and perform a pivot test. Systems with the following issues would suggest a test is necessary: missing an application chart, past uniformity problems, uneven quantities of water application, etc.

Contact your local Extension office for assistance with this process.

extension.uga.edu

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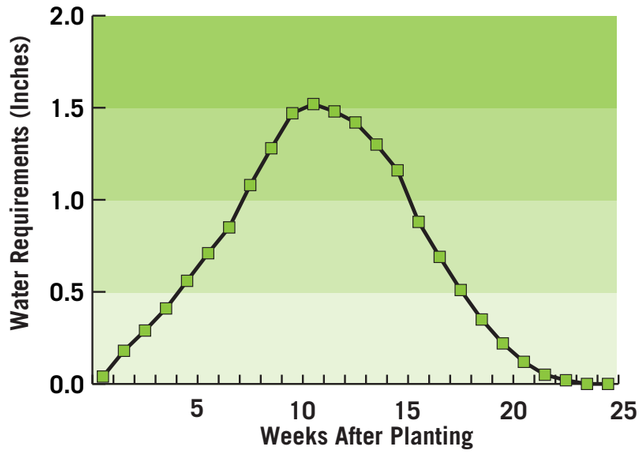
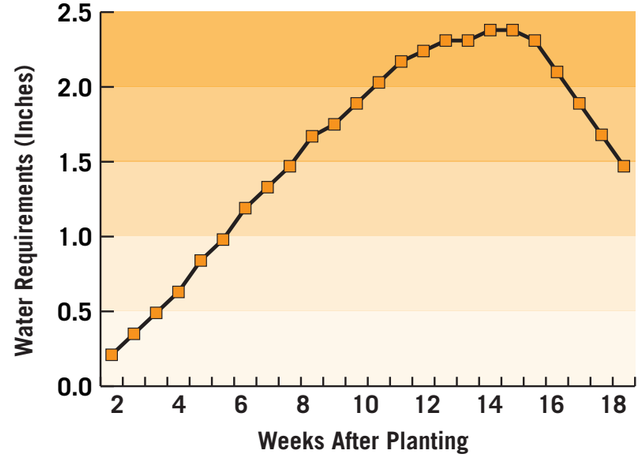
COTTON



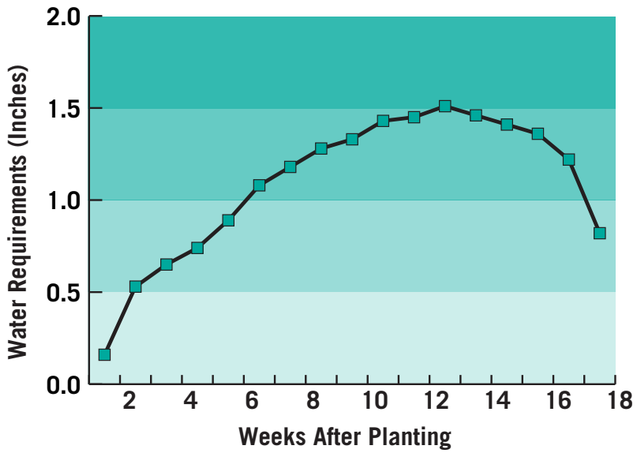
DAP	WAP	Inches/Week	Inches/Day
1-7	1	0.04	0.01
8-14	2	0.18	0.03
15-21	3	0.29	0.04
22-28	4	0.41	0.06
29-35	5	0.56	0.08
36-42	6	0.71	0.10
43-49	7	0.85	0.12
50-56	8	1.08	0.15
57-63	9	1.28	0.18
64-70	10	1.47	0.21
71-77	11	1.52	0.22
78-84	12	1.48	0.21
85-91	13	1.42	0.20
92-98	14	1.30	0.19
99-105	15	1.16	0.17
106-112	16	0.88	0.13
113-119	17	0.69	0.10
120-126	18	0.51	0.07
127-133	19	0.35	0.05
134-140	20	0.22	0.03
141-147	21	0.12	0.02
148-154	22	0.05	0.01
155-161	23	0.02	0.00
162-168	24	0.00	0.00
169-175	25	0.00	0.00

CORN



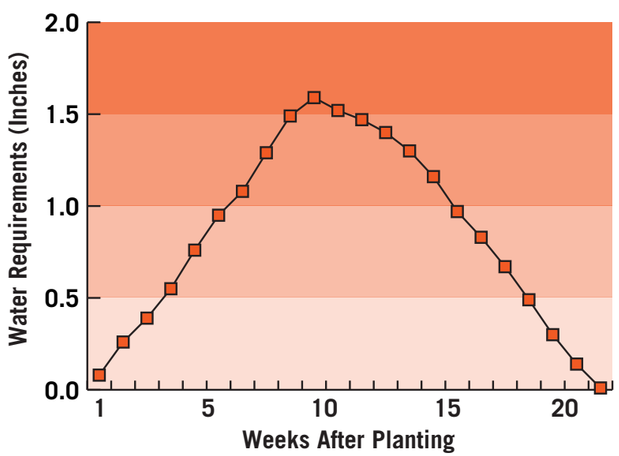
DAP	WAP	Inches/Week	Inches/Day
0-7	1	0.21	0.03
8-12	2	0.35	0.05
13-17	2	0.49	0.07
18-22	3	0.63	0.09
23-27	4	0.84	0.12
28-32	5	0.98	0.14
33-36	5	1.19	0.17
37-41	6	1.33	0.19
42-45	6	1.47	0.21
46-50	7	1.67	0.23
51-54	8	1.75	0.25
55-59	8	1.89	0.27
60-64	9	2.03	0.29
65-69	10	2.17	0.31
70-74	11	2.24	0.32
75-79	11	2.31	0.33
80-84	12	2.31	0.33
85-89	13	2.38	0.34
90-94	13	2.38	0.34
95-99	14	2.31	0.33
100-104	15	2.10	0.30
105-109	16	1.89	0.27
110-114	16	1.68	0.24
115-119	17	1.47	0.21

SOYBEAN



DAP	WAP	Inches/Week	Inches/Day
1-7	1	0.16	0.02
8-14	2	0.53	0.08
15-21	3	0.65	0.09
22-28	4	0.74	0.11
29-35	5	0.89	0.13
36-42	6	1.08	0.15
43-49	7	1.18	0.17
50-56	8	1.28	0.18
57-63	9	1.33	0.19
64-70	10	1.43	0.20
71-77	11	1.45	0.21
78-84	12	1.51	0.22
85-91	13	1.46	0.21
92-98	14	1.41	0.20
99-105	15	1.36	0.19
106-112	16	1.22	0.17
113-119	17	0.82	0.12

PEANUT



DAP	WAP	Inches/Week	Inches/Day
1-7	1	0.08	0.01
8-14	2	0.26	0.04
15-21	3	0.39	0.06
22-28	4	0.55	0.08
29-35	5	0.76	0.11
36-42	6	0.95	0.14
43-49	7	1.08	0.15
50-56	8	1.29	0.18
57-63	9	1.49	0.21
64-70	10	1.59	0.23
71-77	11	1.58	0.23
78-84	12	1.49	0.21
85-91	13	1.47	0.21
92-98	14	1.30	0.19
99-105	15	1.16	0.17
106-112	16	0.97	0.14
113-119	17	0.83	0.12
120-126	18	0.67	0.10
127-133	19	0.49	0.07
134-140	20	0.30	0.04
141-147	21	0.14	0.02
148-150	22	0.01	0.00