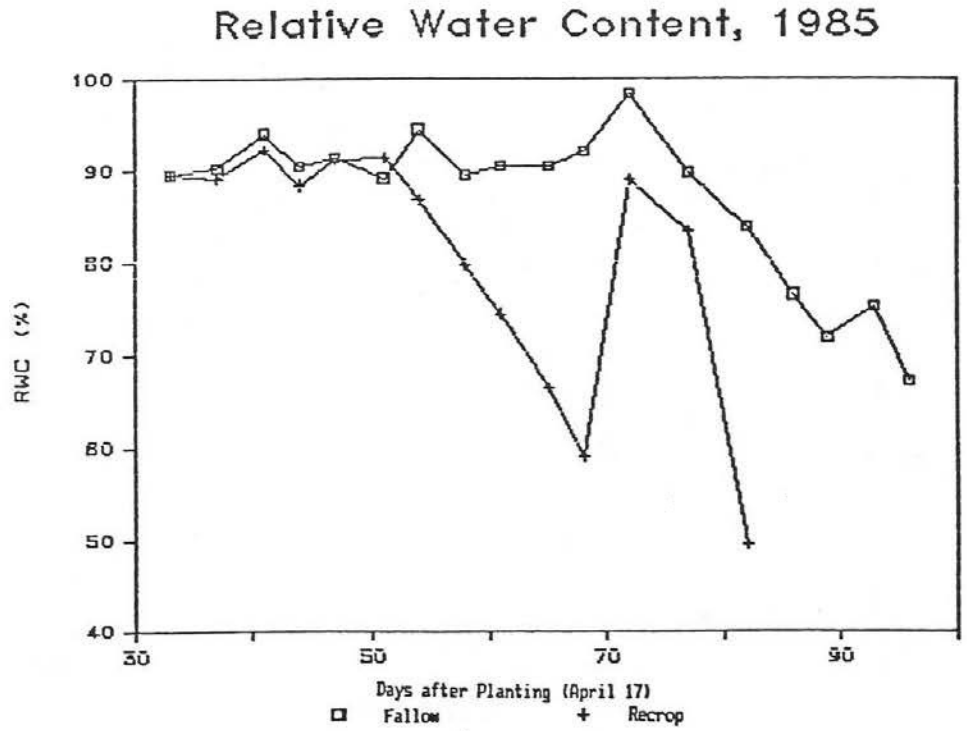
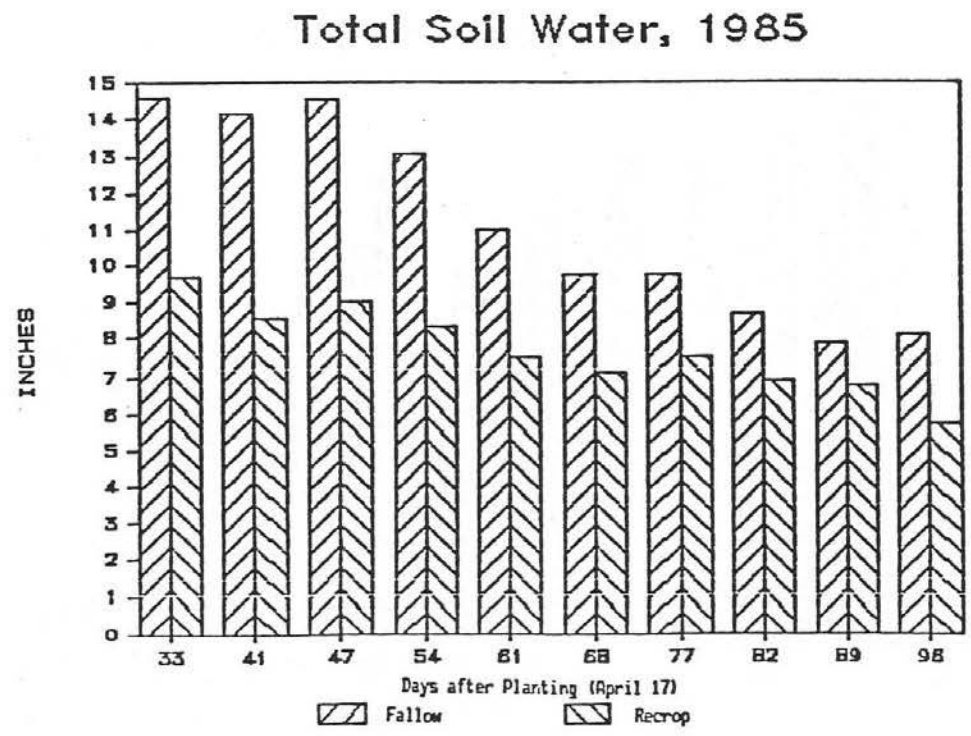
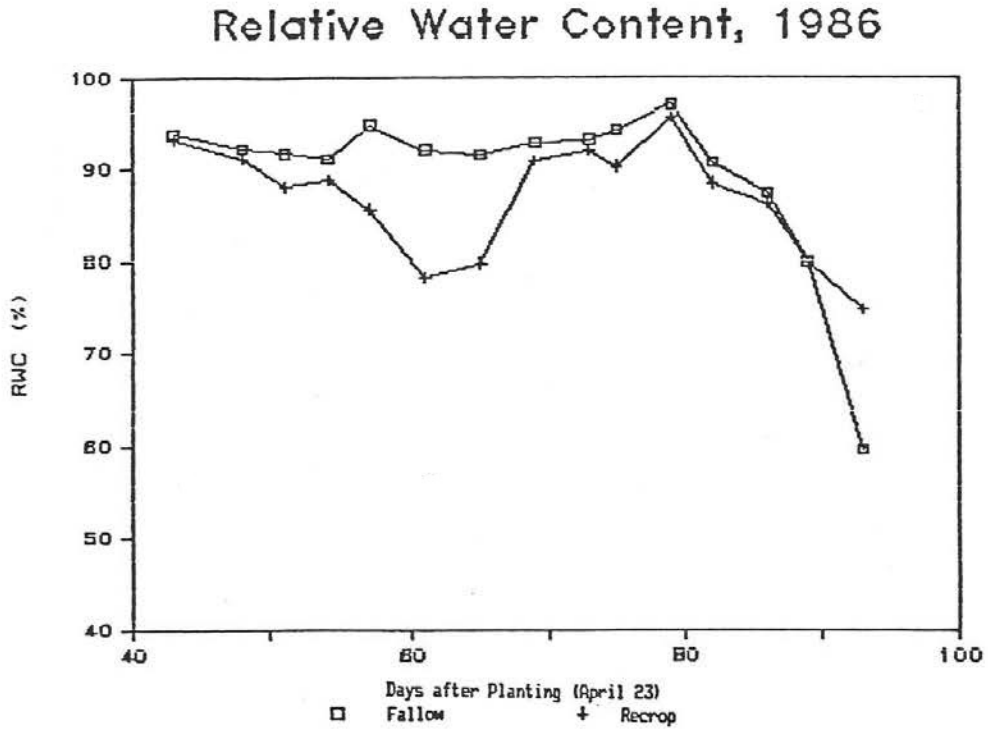
Crop Development Study

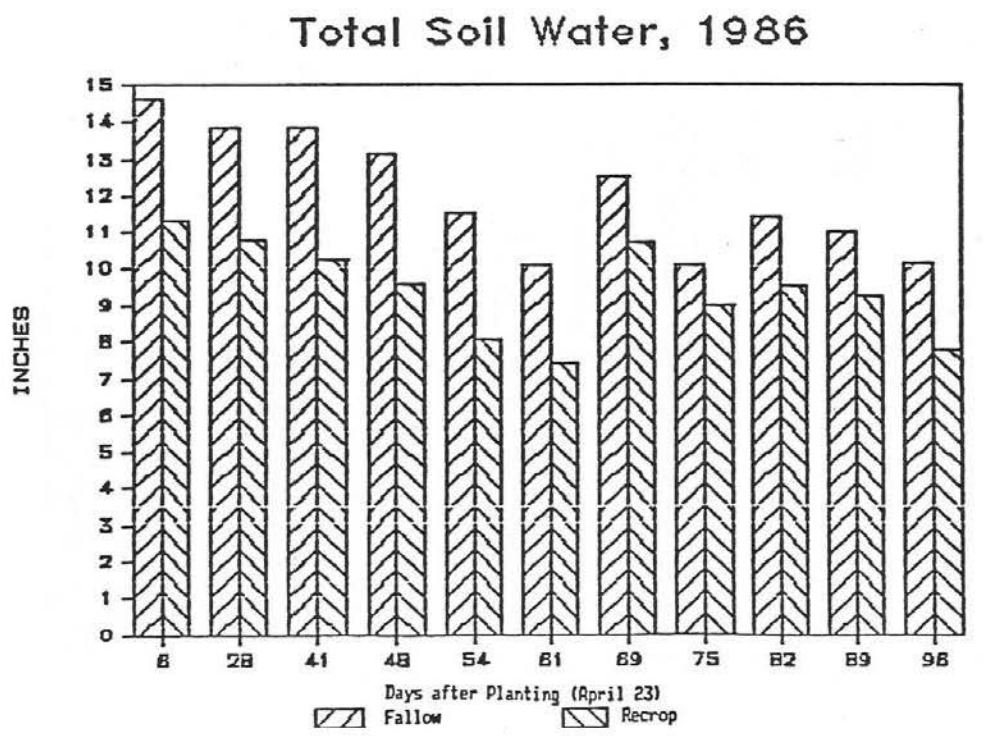
The Crop Development Study was initiated to estimate drought stress and to quantify its effects on the physiological development of wheat. Hard red spring wheat planted on fallow was compared to wheat following sunflowers. Leaves were clipped twice per week and drought stress was estimated using the Relative Water Content which is the ratio of fresh leaf weigh to turgid leaf weight. Soil moisture was measured once per week to a depth of 48 inches in 12 inch increments. Approximate wilting point for 48 inches of soil is 7 inches of water.

	Bu/A Avg.	**Test Wt. Lbs.**	**Protein %**
1985 Fallow	37.7	60.8	15.4
Recrop	16.9	57.0	16.4
1986 Fallow	57.8	62.0	14.7
Recrop	39.5	62.5	15.1


Relative Water Content, 1985
RWC (%)
100
90
80
70
60
50
40
30
50
70
90
Days after Planting (April 17)
Fallow
Recrop


Total Soil Water, 1985
INCHES
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
33
41
47
54
61
68
77
82
89
98
Days after Planting (April 17)
Fallow
Recrop


Relative Water Content, 1986
RWC (%)
100
90
80
70
60
50
40
40
60
80
100
Days after Planting (April 23)
Fallow
Recrop


Total Soil Water, 1986
INCHES
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
6
28
41
48
54
61
69
75
82
89
98
Days after Planting (April 23)
Fallow
Recrop