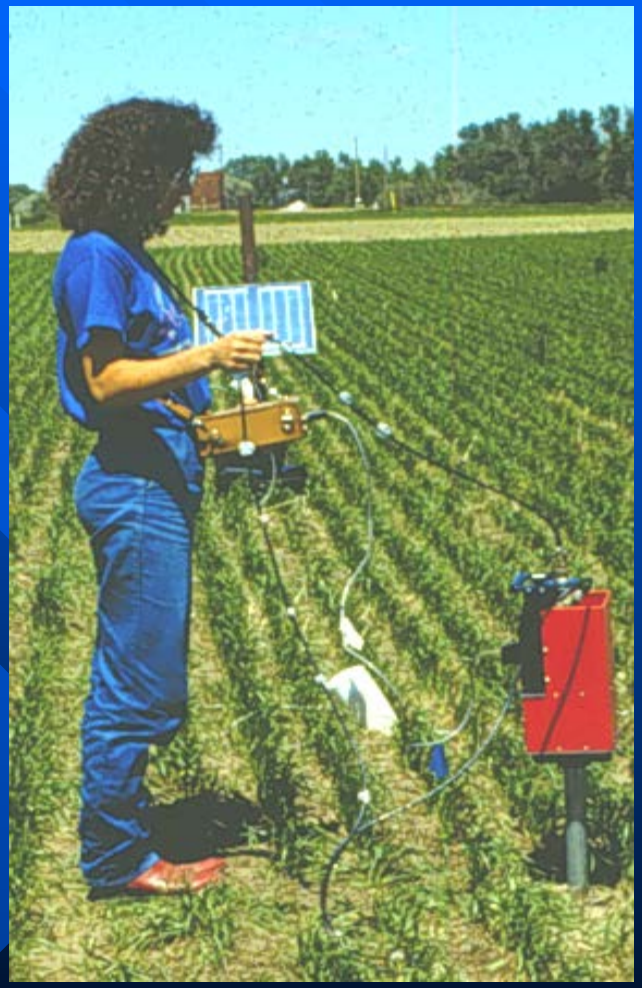
Soil Water in Crop Sequence Study 1998-2000



Measuring water in soil profile in spring

Soil Water Guidelines

* These guidelines give an estimation of the relative amount of water that will be in the soil profile in the spring following a sequence of crops.

* The primary factor affecting soil water is extraction by the expected crop and non-crop evaporation during the growing season. Overwinter snow capture by crop residue is a less important but significant factor.

* Estimations are based on soil water measurements in our Crop Sequence Experiment during the years 1999 and 2000, and spring 2001.

Information on Soil Water Use and Storage

Research information on soil water use is based on measurements carried out in our Crop Sequence Experiment.

A. Soil water measurements with a neutron probe
B. Full-season soil water depletion by crops
C. Crop water use (depletion + precipitation)
D. Precipitation at the experimental site
E. Snow capture by crop residues
F. Soil water in the fall
G. Soil water in spring 2001

Measurements

Fig. A. Taking soil water measurements in the field with a neutron moisture meter.

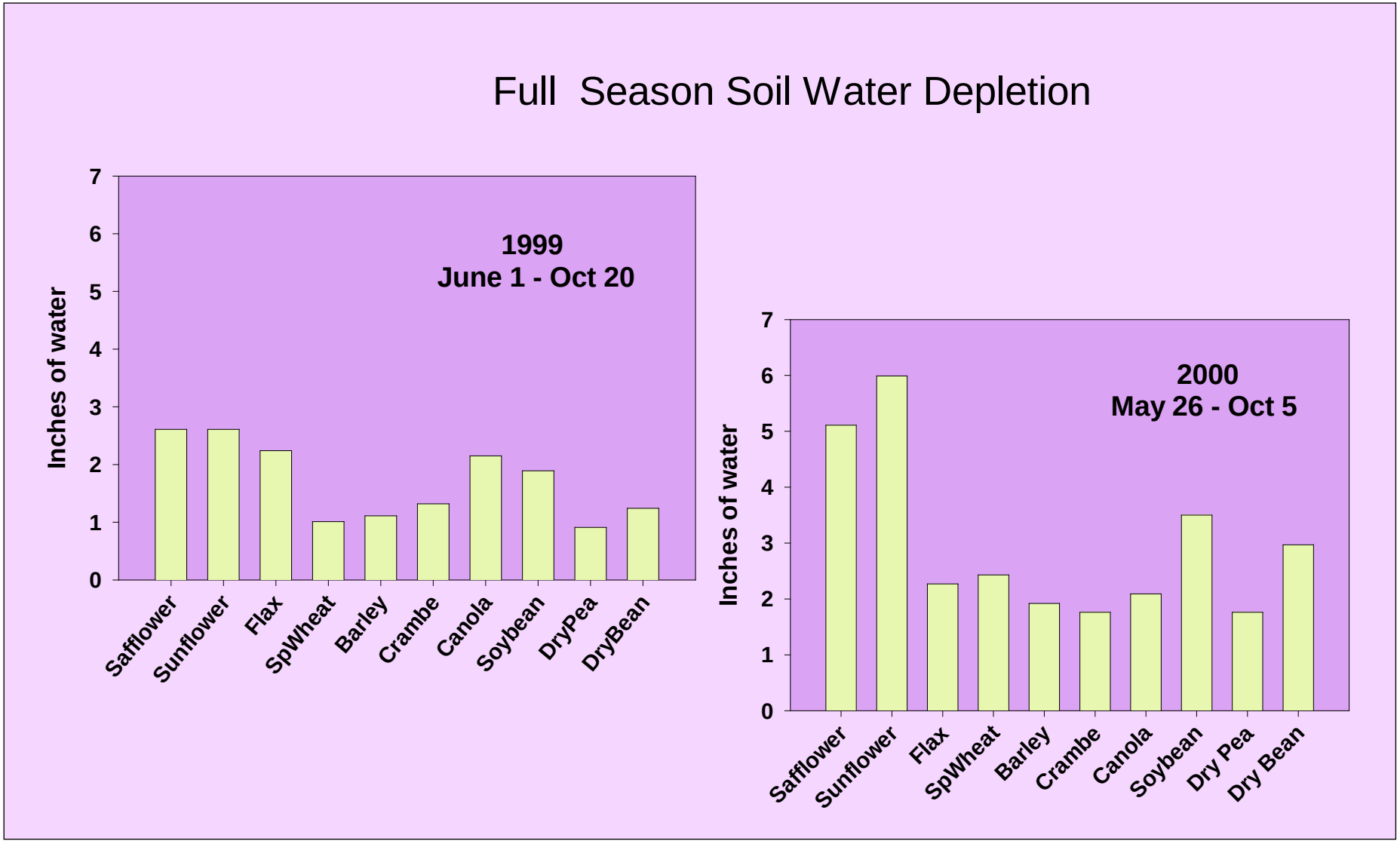
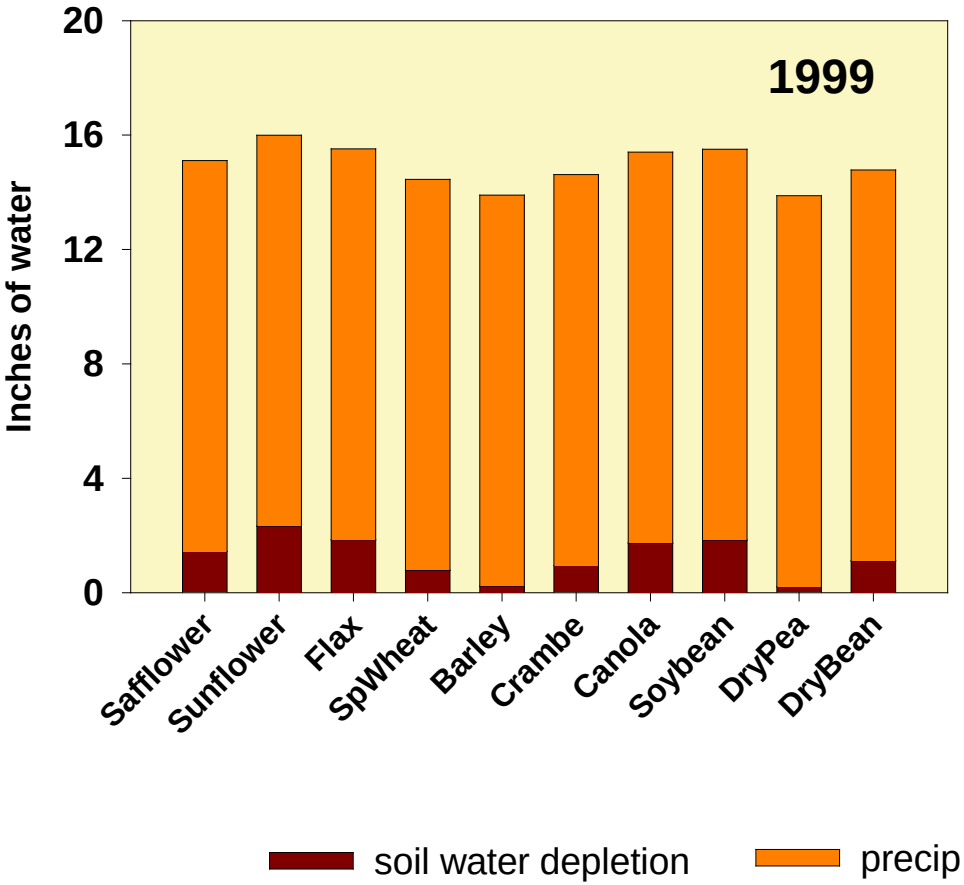


Fig. B. Soil water depletion measured with a neutron moisture meter in alternative crops following spring wheat. The total soil profile depth was 8.5 feet.

Crop Water Use (CWU)
CWU = Soil water depletion + precipitation



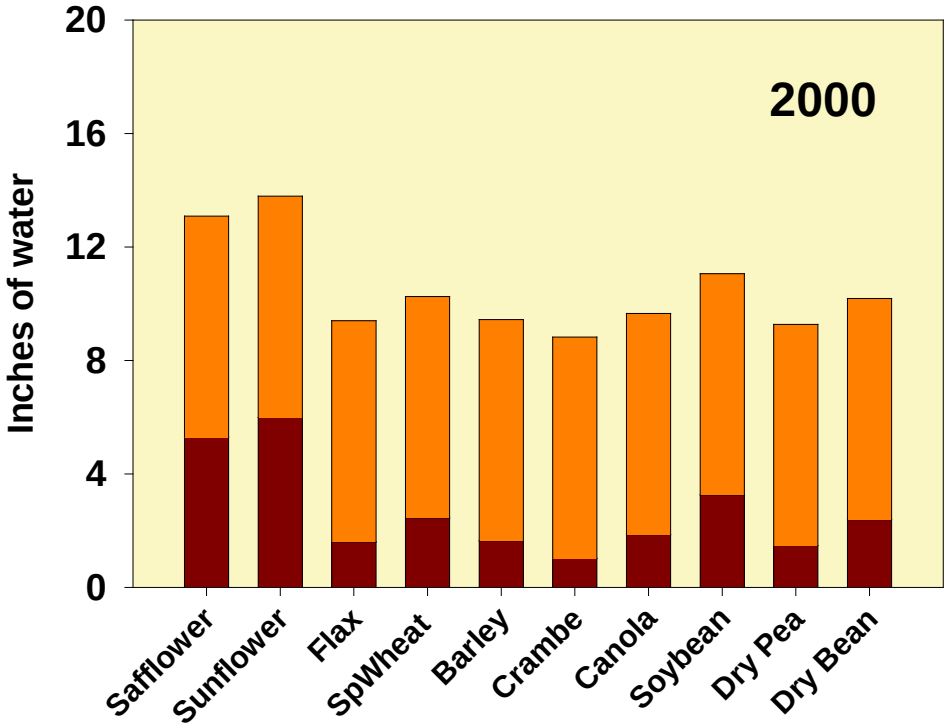
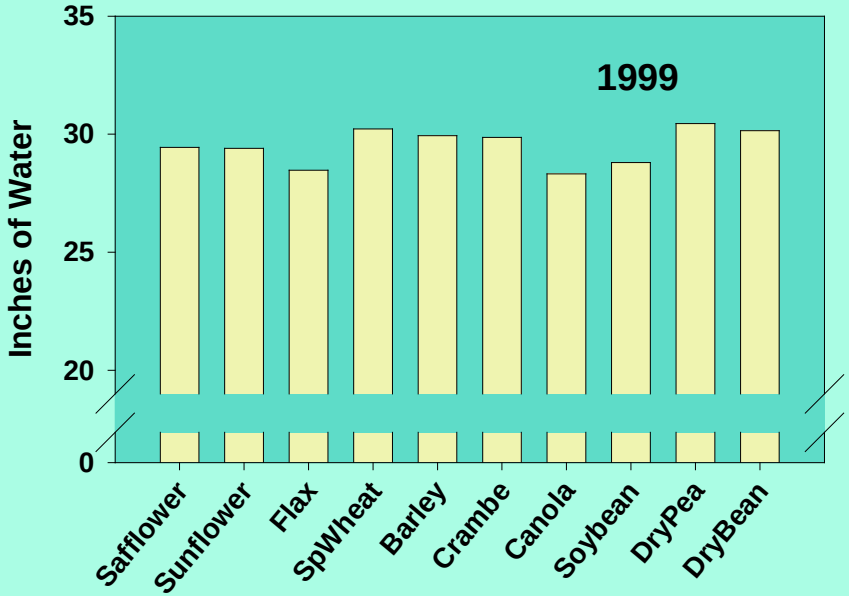


Fig. C. Crop water use (= soil water depletion plus precipitation) measured in Crop Sequence Experiment in 1999-2000.



Fall Soil Water

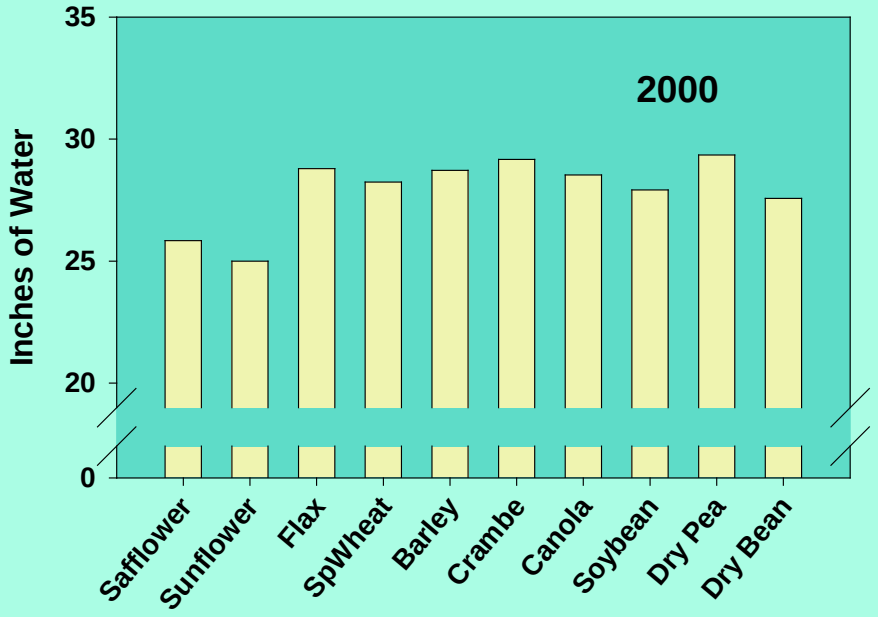


Fig D. Soil water measured in October in alternative crops following spring wheat. Measurements by neutron moisture meter to soil profile depth of 8.5 feet.

Snow Depth

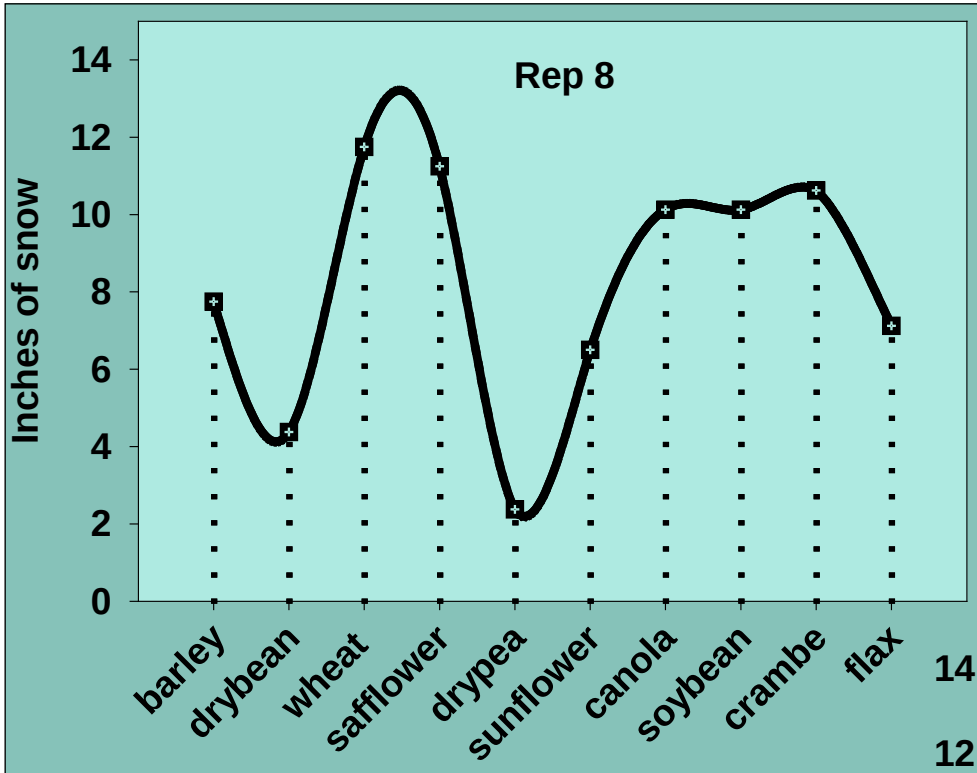


Fig. EA. Snowdepth pattern across one replication of crop sequence experiment. Measured in Feb. 2001.

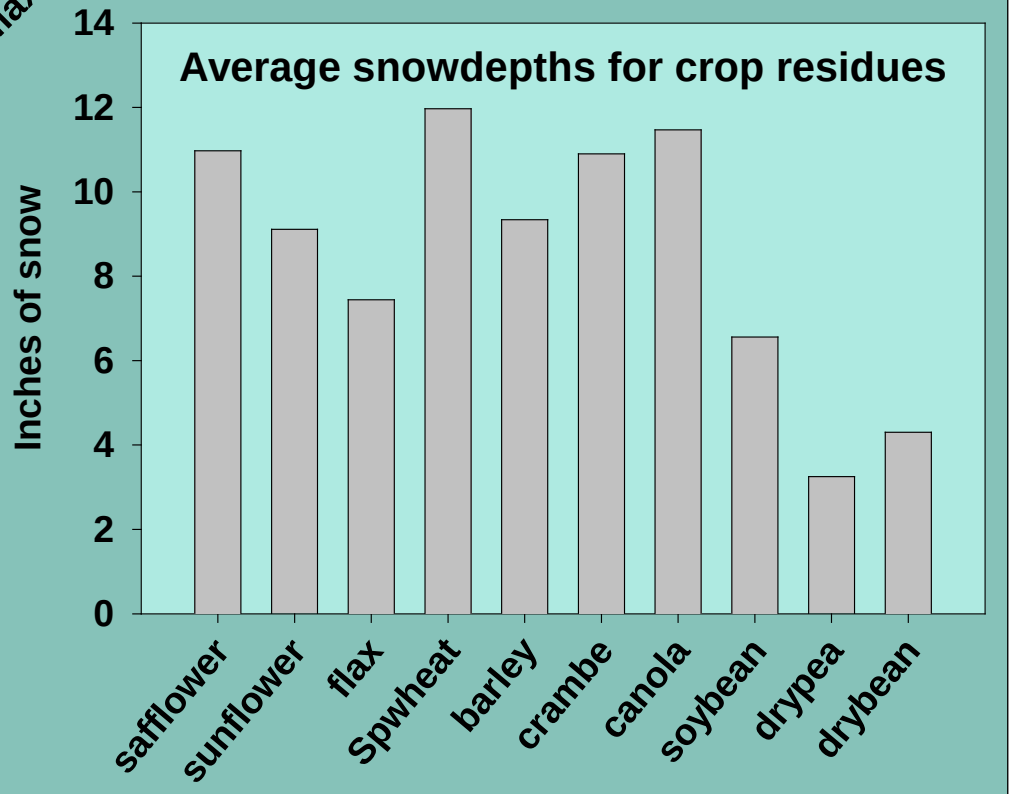


Fig. EB. Average snowdepth measured in crop sequence experiment in Feb. 2001.

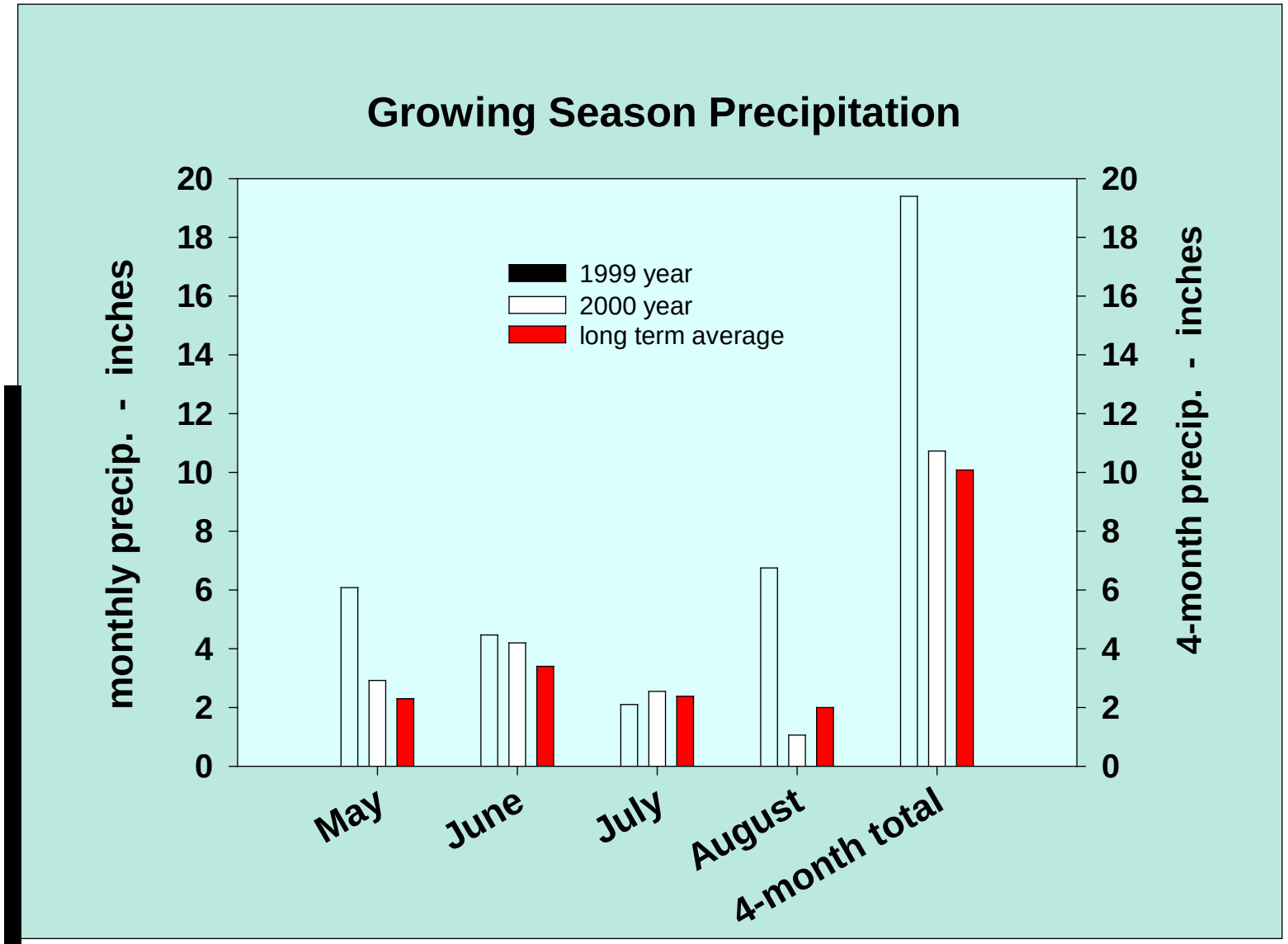


Fig. F. Precipitation measured at the site of the Phase II Crop Sequence Experiment.

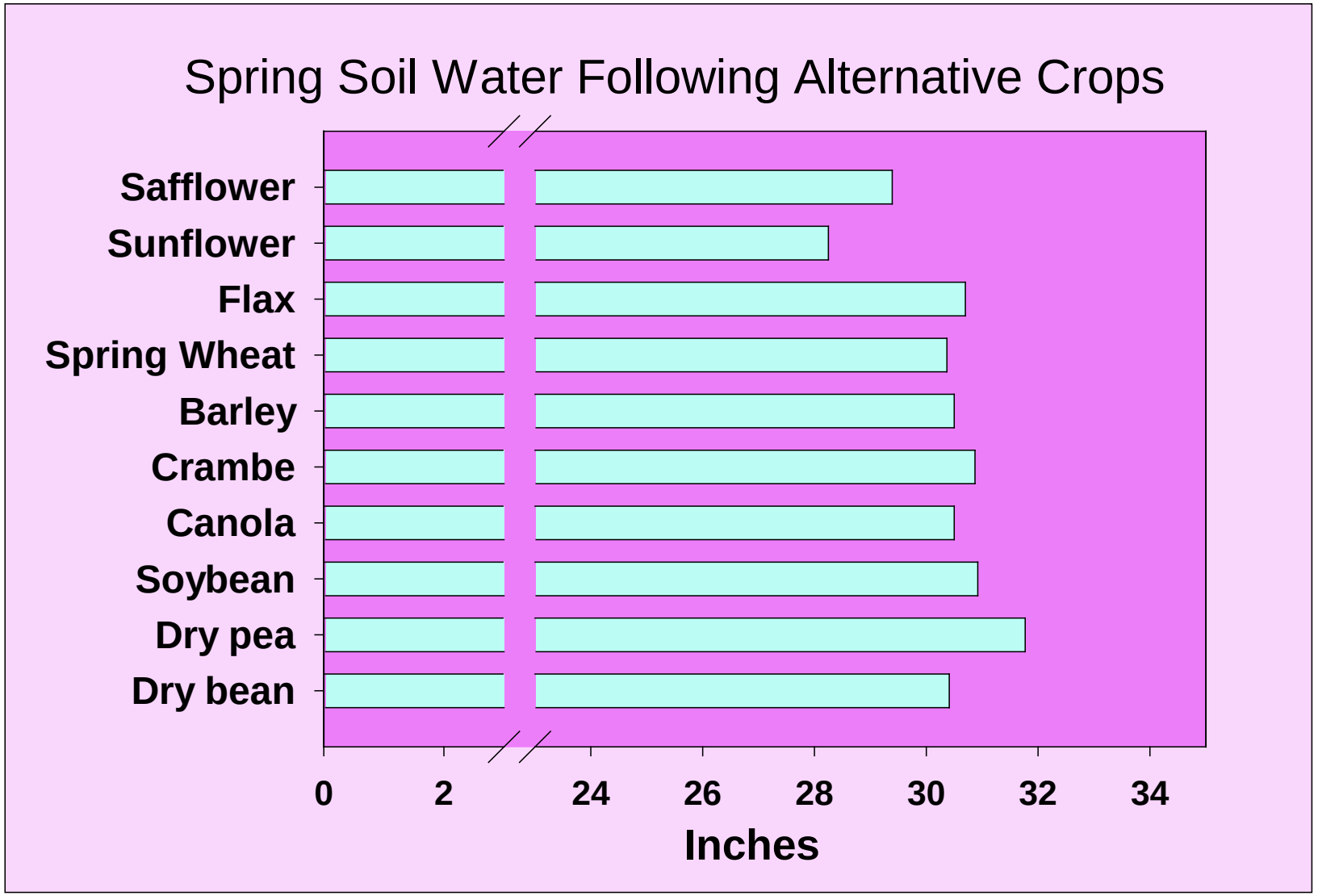


Fig.G. Soil water measured in April 2001 in stubble of alternative crops that had followed spring wheat. Measurements were made with a neutron moisture meter to a soil profile depth of 8.5 feet.