With the exception of soybeans (*Glycine max.* L. Merr.), crops grown primarily for oil have become important comparatively recently, and information on irrigation requirements is limited. Furthermore, there is little similarity among the various oil crops. With the possible exception of peak water use rates, characteristics important in irrigation are markedly different.

I. SOYBEANS

Recent reviews of general cultural requirements for soybeans include information on water requirements and on responses to irrigation (Howell, 1960; Carter and Hartwig, 1962). Whitt and Van Bavel (1955) also briefly reviewed soybean irrigation.

A. Water Requirements

Carter and Hartwig (1962) conclude that seasonal water use by soybeans ranges between 20 and 30 inches. Whitt and Van Bavel (1955) indicate a seasonal water requirement of 13 to 23 inches with rates averaging 0.3 inch/day during July and August in Missouri, USA. They feel that these rates may be too high because they were measured on small plots subject to advection. Herpich (1963) lists water requirements of 20 to 24 inches in Kansas, USA with peak use approximately 0.3 inch/day. Somerholder and Schleusener (1960) state that 18 to 25 inches are required in Nebraska, USA. Grissom et al. (1955) give “calculated water use rates for optimum growth” in Mississippi, USA as 6.4, 7.0, and 6.3 inches for June, July and August, respectively.

Water use rates and seasonal requirements depend on many factors. The above data indicate that water use by soybeans is quite similar to that of other crops grown at the same time. Thus local experience or experimental data for other crops may be used for estimates until more specific information is available.

B. Root Development

Depth of rooting and thoroughness of root ramification are important factors in determining the quantity of water which may be depleted before irrigation is required. Howell (1960) gives a general review of root growth, concluding that while the main taproot may penetrate as deep as 5 ft, most of the root system is