Irrigation Scheduling

USEFUL EQUATIONS

1. Water use = ETo x Kc x Af
2. Plant Available water = SWHC x Effective root zone depth

1.   a) What is the average monthly water requirement (in inches) in Dallas (monthly ETo = 8.76 inches) for a bermudagrass turf growing in July with a crop coefficient of 0.6 and a normal adjustment factor of 0.6?

b) What is the average daily water requirement (in inches)?

2.   a) If a loam soil has an available water holding capacity of 1.8 in/ft, how much water can be held within a 6-inch root zone?

b) With an allowable depletion of 50%, how much water can be depleted between irrigations?

c) With a average daily water use of 0.15 inches, how many days can you go between irrigations?

d) How much water (in inches) should be applied during each irrigation event?

3.   a) Station 1 has a precipitation rate of 0.50 inches per hour. How long (in minutes) must station 1 run for each irrigation in order to meet the turf water requirement 0.45 inches?

b) If station 2 has a precipitation rate of 0.75 inches per hour, how long must it run to apply 0.45 inches?

c) If station 3 has a precipitation rate of 0.50 inches per hour and has an application efficiency of 75%, how long must station 3 run to apply 1 inch of water over the entire area?