

EFFICIENT IRRIGATION FOR RECREATIONAL TURF IN NEW ENGLAND: EVAPOTRANSPIRATION AND CROP COEFFICIENTS

FIRST YEAR SUMMARY

Principal Investigators

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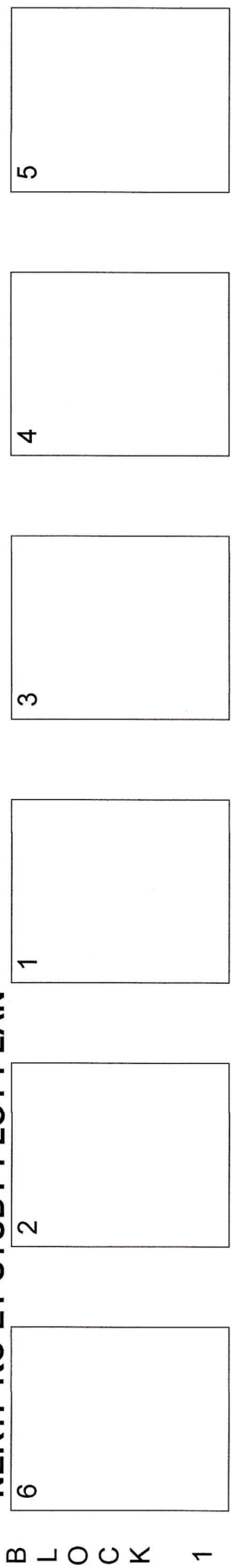
EXECUTIVE SUMMARY

Perennial ryegrass and Kentucky bluegrass plot areas were established under two levels of culture, 1) high maintenance: 1.25 inch height of cut and fertilized four times per year at 1.0 pound of N per 1000ft² per application (4.0 pounds total N per 1000ft² per season) and 2) low maintenance: 3 inch height of cut and fertilized two times per year at 1.0 pound of N per 1000ft² per application (2.0 pounds total N per 1000ft² per season). The cultivars planted included 'Touchdown Kentucky bluegrass and 'Exacta' perennial ryegrass. In addition, golf turf areas were planted to 'Memorial' creeping bentgrass and are maintained under two levels of culture, 1) green (high maintenance): 0.125 inch height of cut and fertilized with 4.0 pounds total N per 1000ft² per season and 2) fairway (low maintenance): 0.5 inch height of cut and fertilized at 2.0 pounds total N per 1000ft² per season. Six treatments (see attachment) consisting of three species by two cultural management levels will be used in this study determine evapotranspiration (ET_0) and crop coefficients (K_c) for adjusting irrigation levels. The objective of this study is to develop K_c values in order to adjust (conserve) water applied as irrigation to turf systems under cultural conditions typical of recreational turf. All plantings were established on 14 August, 2009 and planted as a randomized complete block design with four replicates (see attachment). Evapotranspiration and crop coefficients determinations will begin during the 2010-growing season as described in the original proposal submitted to NERTF.

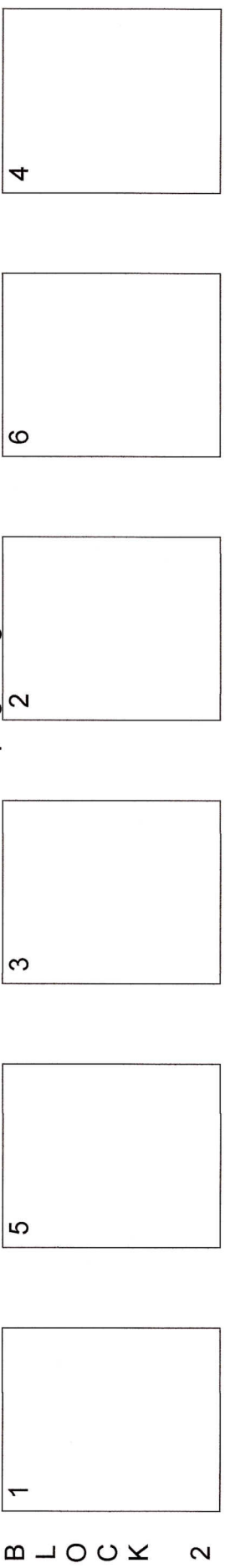
NERTF KC-ET TREATMENTS

1. 'Touchdown' Kentucky bluegrass 1.25 in HOC 4 lbs N/1000ft²/yr
2. 'Touchdown' Kentucky bluegrass 2.5 in HOC 2 lbs N/1000ft²/yr
3. 'Exacta' perennial ryegrass 1.25 in HOC 4 lbs N/1000ft²/yr
4. 'Exacta' perennial ryegrass 2.5 in HOC 2 lbs N/1000ft²/yr
5. 'Memorial' creeping bentgrass 0.125 in HOC 4 lbs N/1000ft²/yr
6. 'Memorial' creeping bentgrass 0.5 in HOC 2 lbs N/1000ft²/yr

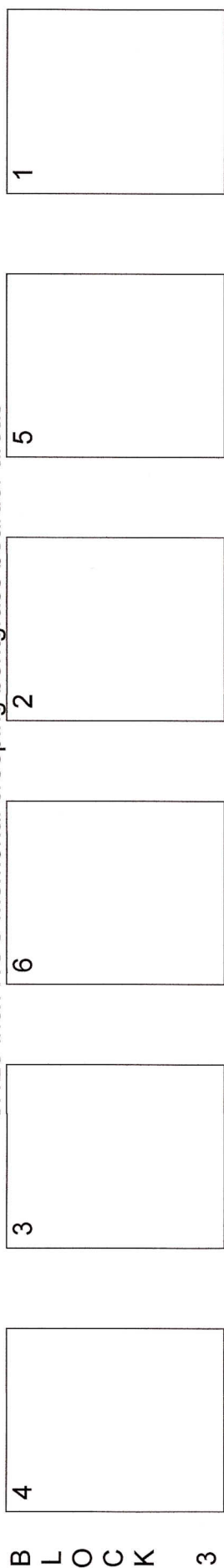
NERTF KC-ET STUDY PLOT PLAN



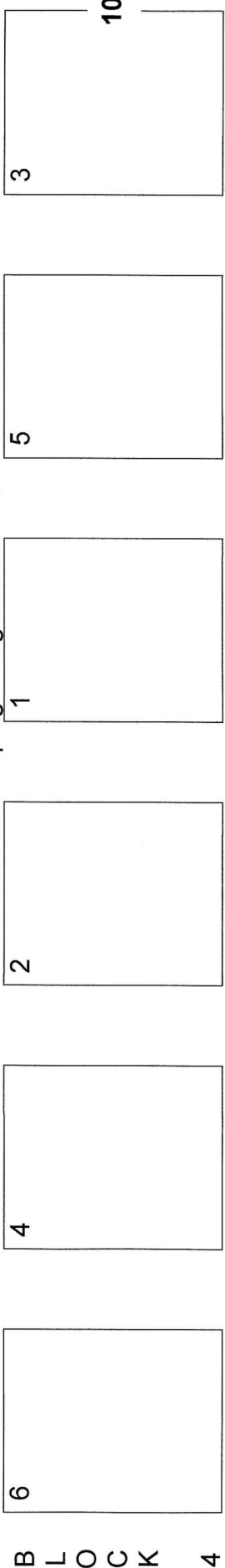
0.125 inch HOC Memorial creeping bentgrass boarder areas



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