



Evaluation of Treated Effluent as an Irrigation Source for Landscape Plants¹

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Abstract: Treated effluent from the Hampton Roads Sanitation District (HRSD) Virginia Initiative Plant (VIP) was evaluated in 2000 and 2001 as an irrigation source for landscape plants. Landscape plants common to eastern Virginia were installed in raised beds and overhead irrigated at the rate of 2.5 cm (1 in) per week for five months. Aesthetic quality ratings, and soil and water analyses, were conducted monthly. Aesthetic quality ratings were lower on certain plants irrigated with treated effluent in both years of the study. Damage appeared to result from contact by irrigation water high in dissolved salts. Soil tests showed salt accumulation in the planting soil. Damage that occurred on plants irrigated with treated effluent was species specific and included leaf burn, chlorosis, defoliation, stunting and death. All symptoms were consistent with and typical of salt damage. Salt concentrations in this treated effluent were too high to allow use of this water as an overhead irrigation source for many landscape plants without further treatment or dilution. Irrigation with treated effluent should be based on landscape species composition, local climate conditions, and irrigation method.

Study Results for 2000

red maple	2.3	
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Study Results for 2001

begonia	3.0	cotoneaster	1.0
geranium	2.0	forsythia	2.0
petunia	1.0	red twig dogwood	1.7
black-eyed-Susan	3.0	St. John's wort	2.0
coneflower	1.0	crab apple	2.0
abelia	1.0	crape myrtle	3.0
azalea	1.0	eastern redbud	1.0
barberry	3.0	red maple	2.0
butterfly bush	2.0	river birch	3.0
cherrylaurel	1.0		
NP= non-potable water Ratings 1=dead to 5=no damage			

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