GROWTH CHARACTERISTICS OF COMMON AND ALTERNATIVE BUFFER SPECIES DURING ESTABLISHMENT AND EARLY GROWTH. Janyce L. Woodard, Stevan Z. Knezevic, and David P. Shelton, Haskell Ag. Lab, University of Nebraska, Concord, Nebraska.

The production-oriented function of the agricultural landscape has produced unintended and undesirable environmental consequences such as non-point source (NPS) water pollution. One way in which the agricultural community addressed the NPS pollutant problem was to develop soil conservation practices using vegetative filter strips to trap and filter out NPS pollutants. Both native grasses and various alternative species can be used in conservation buffers. Field studies were conducted in northeastern Nebraska in 2002 and 2003 with the objective to evaluate the growth characteristics of 14 potential buffer species during the establishment and early growth periods. Growth analysis included determination of leaf area index (LAI), specific leaf area, partitioning coefficients, and dry matter (DM) production. Preliminary data suggested that LAIs ranged from 0.25 to 3 during the initial season of growth. At the end of the first growing season, the largest LAI for the warm season species was 2 for big bluestem (*Andropogon gerardii*). Cool season grasses such as Virginia Wildrye (*Elymus virginicus*) had a LAI of 3. The same species also produced the largest amount of DM. Once the growth characteristics are described, the species can be combined in different mixes to better meet the objectives of the buffer. (woodarj@witcc.com)

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