Growth and Reproductive Potential of Quackgrass from Rhizome Fragments and Seed. D.H. Wilcox and I.N. Morrison, University of Manitoba.

In 1987, at Portage La Prairie, quackgrass (Agropyron repens L.) seedlings were initially less robust than quackgrass plants started from single-node rhizome fragments, but by harvest the seed and rhizome propagated plants were indistinguishable. At harvest 14 weeks after planting the average above- and below- ground shoot dry weights were 69 g for the 6 plants grown from seed and 65 g for the 45 plants started from rhizome fragments. The average biomass partitioning into the rhizomes, sheath, leaves and heads, respectively, were 41, 29, 17 and 3% for the plants grown from seed and 35, 31, 32 and 2% for those regenerated from rhizome fragments. Total rhizome length averaged 32 m for both seed and rhizome propagated plants. Rhizome node number averaged 806 for plants grown from seed and 743 for plants started from rhizome fragments. Among plants propagated from rhizome fragments the maximum observed total rhizome length was 75 m compared to a maximum of 58 m observed from a plant produced from seed. Those individual plants, although differing in length, had similar rhizome node numbers of 1593 and 1525, respectively. Head numbers averaged 6 for plants produced from seed and 11 for plants regenerated from rhizome fragments. Other parameters, such as plant height, leaf areas and culm numbers did not differ between seed- or rhizome- propagated quackgrass. Although propagation and spread of quackgrass is primarily via rhizome formation the potential for quackgrass infestation from seed cannot be ignored.