CEREAL COMPANION CROPS AND FORAGE SEED PRODUCTION

The practice of seeding cereal companion crops with certain forages should be seriously examined if the forages are intended for seed production, advises C.R. Elliott, agronomist, Experimental Farm, Beaverlodge, Alberta. Cereal grains are often seeded as a companion crop with hay and pasture seedings if for no other reason than to provide a harvest the year of the forage establishement. They are effective in retarding weed growth, provide some measure of protection from wind and water erosion and leave a stubble to catch and hold a snow cover. However, unless the companion crop is seed at about one-half the normal rate, there is a definite risk of stand failure of the forage crop, particulcarly in dry years, because of the competition of the fast-growing cereal.

To study this effect of companion crops five grasses and five legumes were seeded alone and with Olli barley in 1957. The barley was seeded at 1.5 bushels per acre and produced 67 bushels per acre. The forages did not establish well under the barley competition but, being favoured by a mild winter, losses due to killing were negligible. Those seeded alone developed strong swards. Consequently in 1958 crested wheat-grass, bromegrass and creeping red fescue yielded 525, 494 and 349 pounds of seed per acre, respectively, when seeded alone, and 37, 97 and 39 pounds per acre respectively, when seeded with barley. Kentucky blue-grass and Russian wild-rye yielded 162 and 27 pounds per acre, respectively, when seeded alone but failed to produce a single seed head on plots established with barley.

Legumes responsed somewhat differently in that, on the average, plots seeded with the barley outyielded the pure seedings. The respect-ive seed yields in pounds per acre for legumes seeded alone and with barley were: sweet clover - 702 and 763; red clover - 204 and 289; birdsfoot trefoil - 194 and 168; alsike clover - 174 and 364; alfalfa 18 and 23. This variation is accounted for by the stronger flower-development on the thinner stands established with the cereal. This also indicates why the recommended seeding rates for legumes is less when grown for seed than for hay and pasture.