

Figure 2. Yield trends of hard red spring wheat grown on stubble (wheat after wheat) in a fallow-wheat-wheat rotation, showing the influence of sweetclover green manure and of N + P fertilizer. The points are 5-year running means. (Indian Head, SK).

tion. Even so, the yield trends for wheat grown on stubble in this green manure system still declined at a rate of 0.39 bu/A/year. This downward trend was probably because legumes do not supply P, and more P was exported in the grain produced from this system.

When fertilized with N and P according to soil test recommendations, the F-W-W system maintained higher yields of wheat grown on stubble than the unfertilized GM-W-W system, indicating that the latter system is not sustainable. The lower yields in the GM-W-W system were related to lower soil test P. In 1991, that system had only half as much bicarbonate extractable P (Olsen-P) in the soil profile (0-4 ft) as the fertilized F-W-W system (i.e., 23 lb/A vs. 50 lb/A).

Summary

Replacing fallow with a legume green manure crop in a 3-year, unfertilized wheat rotation will produce higher wheat yields. However, neither fallow nor green manure will sustain wheat yields in the long-term without adequate fertilization, because neither system can meet the long-term P requirements of wheat. Proper fertilization with N and P can sustain and increase long-term wheat yields in both continuous- and fallow-wheat rotations. ■

Dr. J.D. Beaton Receives WCFA Award of Merit

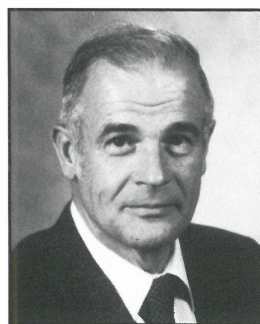
THE Western Canada Fertilizer Association (WCFA) recently presented its Award of Merit to Dr. James D. Beaton, Senior Vice President, International Programs, of the Potash & Phosphate Institute (PPI) and President of the Potash & Phosphate Institute of Canada (PPIC). The recognition was given during the recent 1993 annual meeting and convention of WCFA.

The organization also welcomed PPIC as an affiliate member of WCFA, recognizing several years of cooperation.

A native of British Columbia, Dr. Beaton earned his B.S.A. and M.S.A. degrees from the University of British Columbia and gained his Ph.D. at Utah State University. He later worked as a researcher with Agriculture Canada, as an industry agronomist, and then

as Chief Agronomist with The Sulphur Institute.

He joined the staff of PPI/PPIC in 1978 as Western Canada and Northwest U.S. Director. In 1988, Dr. Beaton was named Vice President, International Programs, PPI, and President, PPIC. He served two terms as WCFA President, in 1977-78 and 1978-79.



Dr. Beaton

Dr. Beaton is co-author of the widely used textbook, *Soil Fertility and Fertilizers*, now in its fifth edition. ■