

Trial 37

Sodicity Trial

Aim: In conjunction with the CRC for Soil and Land Management, improving the soil structure of sodic soils using gypsum and tillage techniques.

Methods: Gypsum was applied at 0, 2, 4, 8 tonnes per hectare during March 1994. In each of the three years of experimentation, starting in 1994, the following tillage treatments were in place:

- Direct drilled - Connorshea combine
- Minimum tillage - Shearer 24 row
- Agro ploughed 1994
- Normal cultivation
- Straw incorporated 1994 and 1995

Results:

Gypsum t/ha (applied in '94)	Tillage practice	Wheat yield t/ha 1996
0	conventional	4.97
0	agro plow in '94	4.58
0	direct drill	4.00
0	minimum tillage	4.58
0	straw incorporated	4.51
2	conventional	4.06
2	agro plow in '94	4.32
2	direct drill	4.00
2	minimum tillage	4.58
2	straw incorporated	4.06
4	conventional	4.61
4	agro plow in '94	4.29
4	direct drill	4.29
4	minimum tillage	4.91
4	straw incorporated	4.87
8	conventional	4.58
8	agro plow in '94	3.93
8	direct drill	3.44
8	minimum tillage	4.09
8	straw incorporated	4.71
Significant Difference		NS

Interpretation:

No significant differences were found from either the different rates of gypsum applied in 1994 or from the tillage practices. On these soils with highly sodic subsoils, practices other than gypsum and tillage need to be investigated to determine the limiting factors, or how the sodicity may be alleviated.