

# Program: Domtar Soil Conditioner (Cornwall) on Field Corn 2003 - 2006

## — Phosphorous and Organic Matter Monitoring



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## In Partnership With



### Objective:

The objective of this test was to monitor phosphorous and organic matter levels with successive applications of DCSC.

### Background:

There currently exists some concern that applications of Domtar (Cornwall) Soil Conditioner (DCSC) year after year could tend to elevate soil phosphorous levels. There is also a suggestion that the use of DCSC every year as an alternative to commercial fertilizer will slowly and steadily elevate the soil organic matter levels resulting in increased soil fertility.

The program was field based with the experiment being conducted at the Winchester Research Station with successive applications of DCSC on field corn over a 4 year period.

### Conclusions (Years 1, 2 and 3)

After three years of DCSC application:

1. Soil P levels remain at the same level. There is no indication of elevated soil P levels with successive applications of DCSC.
2. Soil organic matter levels are decreasing slightly each year. Although statistically the same treatment 3 (10 t/ha. of DCSC in the fall and 15 t/ha. in the spring) had the highest soil O.M. levels in all years when compared to the other two treatments with commercial fertilizer.
3. Soil Na levels are lower and soil Ca levels slightly higher. These levels do not merit the calculation of a sodium absorption ratio (S.A.R).
4. Corn yields for all treatments are deemed equivalent because they are all in the same yield group.
5. Soil N-NO<sub>3</sub> levels are low at 5 - 7 ppm at soil depths (0-15 cm, 15-30 cm and 30-45 cm.). To be environmentally responsible the fall soil N-NO<sub>3</sub> level should be less than 30 ppm at the 0-15 cm.



**Support Appreciated from:**



**Community Benefits Include: More efficient use of BCSC on corn fields**