

Cover Crops to Limit Herbicide Use on Sweet Corn

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by

Astrid Newenhouse

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BACKGROUND / NEED

Much of the land under sweet corn production in Wisconsin is sandy soil where atrazine use is limited or prohibited. Living Mulches, or cover crops planted in strips between corn rows, may be an alternative weed management tool to replace atrazine used in corn production on sandy soil.

OBJECTIVES

The purpose of this project is to test whether sweet corn, a high value cash crop, can be profitably raised in the Central Sands area without the use of atrazine or high rates of other herbicides.

METHODS

Sweet corn was grown on plots at the Hancock Agricultural Experiment Station in Waushara County, Wisconsin according to standard UW Extension Recommendations. The main treatments in the experiment were cover crops of ryegrass or canola. Various methods of suppression to limit cover crop competition with the corn were tested including mowing, cultivation, and applying a 2% solution of glyphosate. Corn and cover crop growth were measured throughout the season.

RESULTS / DISCUSSION

Sweet corn yield was highest on plots grown with ryegrass or natural weed cover suppressed by glyphosate, or plots grown without living mulch. Of the living mulch plots which were not suppressed by chemicals, mown ryegrass plots produced the highest corn yield per plant. All of the suppressed living mulches except ground-level mown canola limited early season weed growth as effectively as atrazine plus alachlor.

CONCLUSIONS / IMPLICATIONS / RECOMMENDATIONS

Ryegrass suppressed by glyphosate was an effective living mulch management system for corn. Mown ryegrass was the most effective living mulch management system which did not rely on herbicides.

RELATED PUBLICATIONS

Astrid C. Newenhouse and Helen C. Harrison. 1993. Ryegrass and clover as living mulches for sweet corn on sandy soil. HortScience 28(5)555.

FINAL REPORT

A final report containing more detailed information on this project is available at the Wisconsin Department of Agriculture, Trade and Consumer Protection. For more information, phone 608/224-4503, or email jeff.postle@datcp.state.wi.us.