

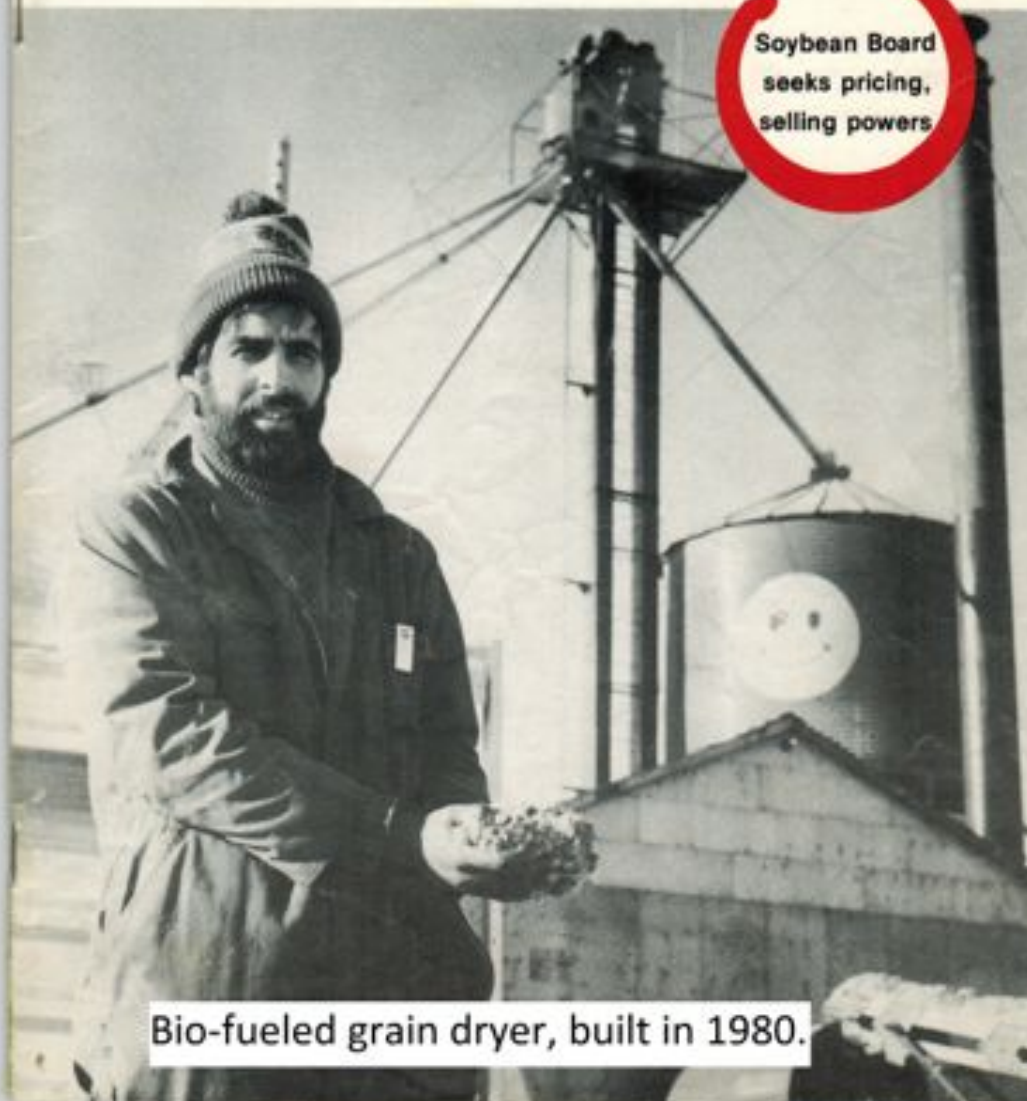
JANUARY, 1982

ADDRESS ENCL.  
R 1, JARVIS, ONT.

# Cash Crop Farming

Fifty  
Cent

Soybean Board  
seeks pricing,  
selling powers



Bio-fueled grain dryer, built in 1980.

# Poplar power pays off

## TOMATOES

Saudi Arabia and Alberta won't like it, but Norfolk county's David Smith is proving farmers can set up their own energy cartels.

Smith draws his livelihood

from the half-acre tomato greenhouse he built in 1982 after predicting that small farmers couldn't survive on corn.

When he calculated that grain growing wouldn't put any money in his pocket, he figured growing energy could.

Smith started with a second-

hand boiler. He transformed it into a heat plant that could burn anything from corn cobs to peanut shells.

He had considerable success using that heat to dry corn. Now he relies on it to provide winter-long heat for the double-poply greenhouse.

Last year, Smith bought sawdust and wood chips from local saw mills for \$10 to \$15 per ton. That cut his heating bill to \$12,000 from \$36,000, enough to make double-cropping his tomatoes economical.

Mike Columbus, provincial agricultural energy specialist, is monitoring the Smith farm. He calculates Smith's heating costs at 50 cents per square foot, compared to \$1.10 for natural gas and \$1.60 for number 2 oil.

Yet Smith wants to chop his heat bills even more, and has planted five acres of hybrid poplars so he can grow his own wood fuel.

The poplars grow prolifically. After one year in his clay-loam soil, the 10-inch clones he planted were up to six feet tall. After two years they averaged 10 feet.

Smith harvested what he calls his "energy plantation" this spring with a modified forage harvester. Total yield reached 5,500 pounds of oven-dried wood per acre.

At that rate he'd need 200 acres of poplars to keep his greenhouse hot. Yet research from the provincial natural resources ministry suggests that with more mature trees he should get anywhere from 14,000 to 20,000 pounds per acre.

Yields of that magnitude would slash his land needs to 50

acres. The trees should last 30 years, but he may use atrazine to kill them early.

Harvesting is done in winter, he notes, and the frozen ground won't be compacted. Roots will break up clumps, and heavy leaf-drop should boost organic matter.

Smith figures 10 years in poplars should convert land that had been pushed too hard under corn into ground that will be ideal for cash cropping.

He predicts more farmers will start growing their own fuel. In most cases, however, they won't be burning it on farm. Instead, they'll sign long term contracts to supply farmers who own greenhouses or corn dryers.



Poplars averaged 10 feet after two years

June 17, 1986  
Farm open house  
field demonstration





May 2010, plant 3000 UK rhizomes



May 2011,  
planted 60,000 BNC rhizomes





March 2012





April 1-15, 2012 plant 10 acres





Greenhouse germination and cost of production trials.



Greenhouse cutting size trials.



Jan. 2013, two year old roots,  
one years growth, six tons per



Jan. 2013





May 2013, one year old root.



2013 Field testing 4 row planter



2013, four row planter, no-till,  
into corn stubble.





Feb. 2014, two year old roots, one years growth.





Feb. 2014, three year old roots, one  
years growth.



Jan. 2014, root harvester  
under construction.

# All Weather Farming Inc.

## OBSTACLES TO THE LARGE SCALE ESTABLISHMENT OF MISCANTHUS

1. Develop a comprehensive production guide that can assist producers in economizing miscanthus establishment (planting dates, fertilizer rates, herbicide/soil type and planting density)
2. Understanding the production of viable rhizomes
3. Reducing the volume of rhizomes for transportation and planting
4. Lengthening the planting window (rhizome harvest to replanting) by understanding rhizome storage
5. Develop automated planting equipment that will fertilize and predictably plant rhizomes