

Growing tobacco plants genetically engineered to produce drugs and vaccines

Dave Roeser, St. Paul's award-winning hydroponic gardener will still grow vegetables but is adding medicinal plants. He plans to raise 100,000 genetically modified plants to produce medicine for cancer, flu and — potentially — Ebola.

Roeser said that tobacco, more than any other plant known to science, is suited for rapid development of vaccines. The process starts when the plants are exposed to genetic material related to the disease. The material grows along with the plant, until the plants are harvested and pureed to extract the vaccine. MnPharm cofounder Jeff Reinert said the process is similar to genetically modifying food crops to become, for example, drought-resistant or more nutritious.

Roeser hopes that his drug farm will be operating later this year. His company, MnPharm, was one of the first to be created with a new legal designation — a public benefit corporation, or PBC.

The advantage for MnPharm, said Roeser, is that it can work on vaccines that aren't necessarily the most profitable. He said that MnPharm might develop "orphan drugs" for small numbers of patients, something that big companies would not bother with.

And they might be able to reduce health care costs, by cutting the cost of manufacturing drugs. A small operation like his, said Roeser, could produce vaccines more rapidly and at lower cost.

For now, the company is seeking investors. Roeser doesn't know specifically what medicines he will be producing, but he is looking for a drug company to order whatever it needs.

Read full, original story: [Maplewood greenhouse switches from vegetables to medicinals](#)