Rubber From Dandelion?

It might be a stretch, but Guelph plant breeder Dave Wolyn hopes to coax natural rubber from Russian dandelion to feed a growing global rubber market and to offer a potentially lucrative new crop for farmers in southern Ontario.

This summer, he'll conduct plant trials using dandelion seeds from Kazakhstan and the U.S. Department of Agriculture. Those trials will help determine whether Russian dandelion can become a new field crop for a natural rubber industry. The research is supported by the Sand Plains Community Development Fund in Tillsonburg, Ont., and KoK Technologies Inc. in Penticton, B.C. KoK owner Anvar Buranov has developed a patented process for recovering natural rubber. Wolyn joined the project after Buranov contacted U of G to find a plant breeder. The Guelph professor has bred asparagus since 1988 and developed an award-winning hybrid that now has almost three-quarters of the Ontario asparagus market. “I thought it was exciting,” says Wolyn. “You’re taking a wild plant and trying to turn it into a crop.”

Most rubber is used for making tires. Natural rubber is better for airplane and heavy-equipment tires than the synthetic oil-derived rubber used in car tires.

The only commercial source of natural rubber, the Brazilian rubber tree, grows mostly in Southeast Asia. After rubber trees were transplanted to Asia, a fungus wiped out most of the South American trees.

Rubber forms naturally in dandelion roots and in parts of other plants. Russian dandelion rubber is chemically suited for use in tires and as latex for gloves, making it an ideal replacement for rubber tree products, says Wolyn. Unlike other rubber-bearing plants, this dandelion species also contains inulin, a food additive and feedstock for biofuels that might also benefit growers.

A rubber shortage during the Second World War prompted scientists to study rubber from Canadian-grown plants, including Russian dandelion. They found that the plant grew well in southern Ontario, but they dropped the project after the conflict ended.

Wolyn said the Canadian Food Inspection Agency will release a review of Russian dandelion under invasive species regulations. He said American studies in the 1940s found the plant unlikely to overrun native plants.

Prof. David Wolyn is in the Department of Plant Agriculture and can be reached at 519-824-4120, Ext. 53092 or 56469, dwolyn@uoguelph.ca.

— University of Guelph news release