

Field day touts versatile winter camelina



U.S. Department of Agriculture researcher Russ Gesch discusses the life cycle of winter camelina during a June 27 open house at Waseca's Agricultural Utilization Research Institute. About 75 people attended the event. Among the challenges to making the crop viable in Minnesota: A lack of familiarity, processors and established markets. **Photo Credit:** Suzanne Rhees, BWSR

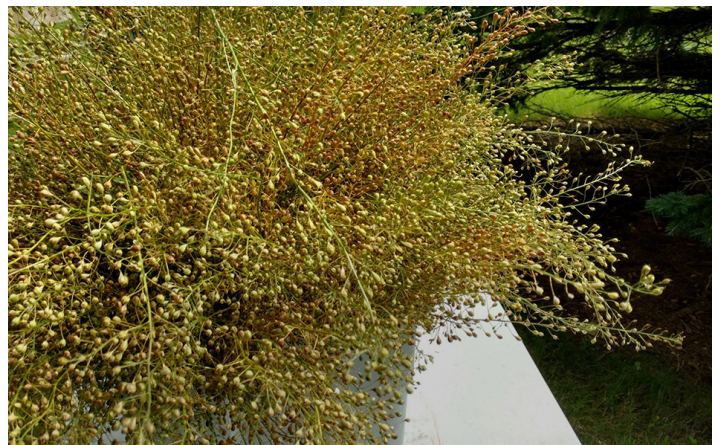
WASECA — Imagine a cover crop that needs little water or fertilizer, endures drought and sub-zero temperatures, keeps nitrates out of groundwater, provides early-season pollinator food and produces a marketable product.



That crop, winter camelina (*Camelina sativa*), was on display during a June 27 open house at Waseca's Agricultural Utilization Research Institute.

Thought to have originated in northern or central Europe, camelina was a U.S. oilseed crop before canola became dominant. Spring camelina is grown as a summer annual crop in the Northern Great Plains and Saskatchewan, where it's used to make aquaculture, poultry, dairy and pet food.

Winter camelina is emerging as a multi-functional cash cover crop in Minnesota.



Here, said U.S. Department of Agriculture researcher Russ Gesch, winter camelina is grown as a relay crop — overlapping the primary crop's growing season. Planted from late summer to mid-October into standing wheat, corn or soybeans, it over-winters as a small rosette of leaves. Soybeans are inter-seeded

The oil-rich seeds of winter camelina can be pressed and refined for cooking and biofuel. This crop was grown and harvested in Waseca County. **Photo Credit:** AURI

between the camelina rows in early May. The camelina is harvested over the top of the soybeans in mid- to late June. Camelina also can be planted after short-season crops such as canning peas are harvested.

Gesch outlined camelina's multiple benefits for water quality, soil health and habitat.

It takes up residual nitrate left by the previous crop, reducing nitrate leaching and runoff. Its early spring soil cover can prevent erosion and sediment runoff. Late April to early May flowers nourish pollinators when food is scarce.

Production costs are low.

The crop requires little fertilizer. It's naturally resistant to many insects and pathogens. An effective weed suppressant, it can cut herbicide use. Equipment used is also used in canola and mustard seed fields.

Gesch said research plots in southern and western Minnesota have yielded up to 1,700 pounds per acre.

Camelina can yield a range of food and fuel products.

Its seeds are high in oil (35 percent or more) and protein (25 to 30 percent). The cold-pressed oil is high in omega-3 fatty acids; it's a healthful, shelf-stable cooking oil with a faint mustard aroma. The oil can be processed as biodiesel, and holds promise as an alternative jet fuel.

The high-protein meal can be used in aquaculture, poultry and pet food, and as a constituent of prepared foods such as energy bars.

A lack of familiarity, processors and established markets may explain why camelina isn't common.

The open house aimed to



Top: A chef prepares lunch items using winter camelina oil during a June 27 open house at the Agricultural Utilization Research Institute in Waseca. **Photo Credit:** AURI **Bottom:** The camera phones came out for a demonstration of an oil press producing cold-press oil and a protein-rich meal from winter camelina June 27 at the Agricultural Utilization Research Institute in Waseca. **Photo Credit:** Suzanne Rhees, BWSR



Details

Find descriptions of winter camelina here:

<http://bit.ly/ForeverGreenInitiative>

<http://bit.ly/UMNExtensionCamelina>

The Minnesota Board of Water and Soil Resources' 2018 "Working Lands Watershed Restoration: Feasibility Study and Program Plan" includes winter camelina among cover crops with potential water-quality benefits: <http://bit.ly/BWSRWorkingLandsPlan>

educate potential camelina growers and processors. For any crop, a supply chain must extend from the seed supplier through the farm field, through harvest, storage, processing and marketplace distribution.

The University of Minnesota's Forever Green Initiative and the USDA's Agricultural Research Service are working to develop earlier maturity, reduced seed shatter, larger seeds, higher yields and higher oil content.

The group of about 75 at the open house was intrigued by a small oil press discharging a stream of cold-pressed oil plus high-protein meal. They suggested uses ranging from hog feed to cosmetics.

A lunch made with camelina oil — marinated steak, chicken and vegetables with pesto sauce, salad dressing, tortilla chips and carrot cake — helped create a favorable buzz about this versatile crop.