

Lentils Find Place in Meat-Based Products

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A local food processor has teamed up with food scientists at the University of Saskatchewan (U of S) and Agriculture and Agri-Food Canada (AAFC) to develop a market-ready lentil product for use as a meat extender. The project, funded by Saskatchewan Pulse Growers and AAFC, has the potential to increase demand for Saskatchewan lentils, as demand grows for convenient meat products in markets around the globe.

NutraReady™ is a pre-cooked lentil flour produced by InfraReady Products. It can be used as a binder and preservative in ready-made hamburgers. The cooking process kills pathogens, increases availability of phenolic compounds (anti-oxidants) in the lentils, and makes the nutrients in the lentils more digestible. These changes improve food safety, increase shelf stability, and create a nutritious product.

“Interest in meat extension is a world phenomenon,” says Mark Pickard, President of InfraReady Products. “We’re trying to make a good product—ground beef—better by adding lentils.” Lentil-based binders can replace traditional binders such as toasted wheat crumb in prepared hamburger patties without changing taste or texture of the burgers, and while extending the shelf life.

Dr. Phyllis Shand in the Department of Food and Bioproduct Sciences at the U of S is pleased with the potential for lentil-based binders like NutraReady™. “We are calling it a multi-functional ingredient,” she says. “It not only increases the juiciness and improves texture, it also preserves the quality of the meat and maintains the colour and the flavour of the burger for longer periods.”

Initial tests showed an improvement in the appearance of frozen burgers made with a lentil-based binder, compared to burgers made with other binders. Local meat retailer Prairie Meats was quick to see the value in the product, and has since incorporated it into their premium burger offering, proudly displaying, “Made With Canadian Lentils” on the package.

With growing demand for meat-based diets in Asia, it pays to find ways to improve quality, extend storage potential, and prevent food waste in ready-made meat products. “Right now we are exploring markets in countries that already buy burgers and meatballs, and where consumers have experience with lentils,” says Shand.

“Our focus has been South Asia, and we have received interest from Malaysia and Singapore. We are also working with a major meat processor in Sri Lanka who is currently evaluating the lentil-based binder. We are awaiting the outcome of our consumer trial of Sri Lankan consumers.”

There is also untapped potential in Central and South America, which could be the focus of future research, as well as interest closer to home.

Meanwhile at the lab, Dr. Shand and Dr. Janitha Wanasundara with AAFC are testing lentil flour as a binder on other meats, such as pork, bison, and chicken, and in other products such as hotdogs and bologna. This high protein meat extender may be starting with pre-made hamburgers—a substantial market in itself—but these researchers are just beginning to explore the potential for lentil-based binders.



Lentil flour has great potential as a binder in meat-based products.

