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BY ROY GRABER ([/AUTHORS/1900-ROY-GRABER](#)) ON AUGUST 17, 2020

## Plant-based means to control Salmonella in turkey

Study shows several essential oils can be effective in pathogen control

Turkey processors may be able to rely on several plant-based options when it comes to post-harvest *Salmonella* control, a Minnesota researcher says.

Safety for Turkey Processing,” held August 13 during the [Midwest Poultry Federation \(https://midwestpoultry.com/\)](https://midwestpoultry.com/) Convention, which was held virtually.

Johnny explained that the majority of pathogens in turkeys and other poultry are usually handled during pre-slaughter operations, there is still the need to [control pathogens \(https://www.wattagnet.com/articles/39561-quality-farm-water-pipes-play-role-in-pathogen-control\)](https://www.wattagnet.com/articles/39561-quality-farm-water-pipes-play-role-in-pathogen-control) during and after the scalding and chilling stages due to the potential for cross-contamination.

One of the key aspects of *Salmonella* is its ability to attach to poultry skin. In both scalding and chilling tanks, *Salmonella* can attach strongly onto the skin. In addition, the oiliness of the skin facilitates the pathogen attachments, and the organic matter in the tanks reduces the efficacy of disinfectants,” Johnny said.

Johnny told of a study with which he has been involved. In the study, he and the other researchers are exploring plant-based options, including essential oils.

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Johnny mentioned five such possibilities:

- Lemongrass essential oil (LGEO) from lemongrass
- Pimenta essential oil (PEO) from allspice
- Trans-cinnamaldehyde (TC) from cinnamon
- Carvacrol and thymol from oregano
- Resorcylic acid from flowering plants

What Johnny and his colleagues have found so far is that PEO and LGEO are “highly effective against *Salmonella Heidelberg*” on turkey drumstick skins and in processing water.

He also said that TC and LGEO have proven to reduce *Salmonella Heidelberg* in ground turkey patties.

## **Are essential oils a cost-effective pathogen controller?**

When asked if essential oils are a cost-effective way to control pathogens, Johnny noted that PEO and LGEO are still relatively expensive products, but other essential oils can be more cost-effective because they are marketed in bulk.

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