

Radio Frequency Sanitization of Wood Packaging Materials

ID# 2016-4521



Front View of Equipment for Invention

Technology Summary

The present technology is a radio frequency (RF) heating method for treating pests infested in commercial sized loads of wood packaging material (WPM). The RF method is carried out by an RF operating unit which houses electrodes. An RF generator applies heat treatment to penetrate WPM deeper than lower frequency irradiation. The RF operating unit includes a chamber for controlling the pressure. The technology can apply synergistic pressure during the heating of WPM or apply pressure fully before heating begins. The RF heating method monitors the temperature of the workload during heating and satisfies the International Standard of Phytosanitary Measures No. 15 treatment standard by heating wood to at least 60 °C for at least a 1 minute holding time to kill any pest infestation. The method can heat wood up to 100 °C for increments of time up to 5 minutes.

Application & Market Utility

Wood packaging material (WPM) is used in global trade to deliver various products. Pests inhabiting WPMs destroy commercial products being shipped. Our researchers have developed technology that treats pests infested in commercial sized loads of WPM. The technology is not only effective in exterminating pests, but is more efficient and environmentally friendly than alternative pest treatments used for WPMs without any deleterious effect on the wood.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

4-7

Seeking

Investment | Licensing | Research

Keywords

- wood packaging
- radio frequency (RF)
- phytosanitation
- invasive species

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