

# Thermoseed technologija - veiksminga sėklų patogenų kontrolė, naudojant karštą garą

**1. Keywords:** Organic seed, Seed production, Organic farms, Seed use, Sustainable technology

**2. Area:** Organic Farming, Agro-environmental protection, Crop production

**3. Subarea:** Organic seed production and chemical-free conventional seed production (pataisyti)

**4. Theme:** ThermoSeed – effective control of seed pathogens using hot steam

**5. Year:** 2014

**6. Summary:** The need for sustainable crop production solutions is constantly growing worldwide. ThermoSeed is an innovative, highly effective and environmentally friendly seed treatment technology with added value for both certified seed multipliers and farmers. ThermoSeed technology was developed at the Swedish University of Agricultural Sciences, SLU, in Uppsala, Sweden. Every year, over 100 000 tons of seeds are processed using this technology, the technology is well established in Sweden since 2005 and since then, the volumes produced are continuously growing. The process is mainly used for conventional agriculture, with the purpose to shift to a sustainable solution with added value without compromising productivity. However, the process also perfectly fits for organic seed production, as no chemicals are involved, whatsoever. The technology is based on disinfection of seeds using high temperature steam. Its effectiveness has already been confirmed on a large scale by a large number of tests and is suitable for use on see

**7. More detailed version of the summary:** ThermoSeed technology is attractive to agricultural cooperatives and seed companies, that want to implement innovative, sustainable and cost-effective solutions in production. It is worth noting that the technology allows for a number of download: The treated seeds are suitable for the use on organic farms where there is a scarcity of available effective seed treatments; The technology pose is environmentally friendly and does not pose a threat to the health of workers because no chemicals are used; Unused ThermoSeed-treated seeds can be used without restrictions for both food and feed. ThermoSeed technology regularly operates from 2 to 15 t/h and also higher capacity systems can be delivered in case of need. In order to optimize the process for the properties of the individual seedlots, and in order to get the best possible results, thorough test are performed on each seedlot. In 2017, the Swedish University of Agricultural Sciences recognized ThermoSeed technology as the best agricultural innovation during 40 years of long history of the university. The Annex provides a spreadsheet for farmers that shows the specific benefits of ThermoSeed technology for their farm, and to the agricultural cooperatives and seed producers. It demonstrates how quickly the investment in ThermoSeed technology pays of the breakdown of service support costs is provided.

**8. Technology readiness level:** TRL 9 - actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

**9. Effect:** Agro-environmental protection, Economical, Social, Sustainable Farming, People's health

**10. Argumentation:** All unused seeds (usually 2–3%) can be used without restrictions in further farm activities. The germination of seeds treated with ThermoSeed technology is higher (7 to 15%), and the yield from such seeds is higher (5 to 10%) as well. ThermoSeed technology has no negative impact on the environment or the people who work with it, as only water and heat are used in the process.

**11. Project description:** -

**12. Project:** -

**13. Education institution :** -

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**15. URL:** -

**16. Images:**

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**17. YouTube:** -

**18. Documents:** [Thermoseed booklet.pdf](#)  
[Thermoseed\\_Excel\\_calculator\\_EN.xlsx](#)