

European Journal of Plant Pathology



Special issue announcement

Thermotherapy of plant propagating materials and postharvest produce: effects and mechanisms of action

Editors: Natalia Peres

Arne Stensvand

Gianfranco Romanazzi

This special issue will focus on use of heat treatments of seeds, transplants, and postharvest produce

Submission deadline 31 January 2025

Call for papers for a special issue of the European Journal of Plant Pathology

Thermotherapy of plant propagating materials and postharvest produce: effects and mechanisms of action

The focus of this special issue is on the use of heat treatment of plant propagating materials and postharvest produce against pathogens, including viruses, bacteria, fungi, oomycetes, and nematodes.

There is a need to reduce chemical input in agriculture, and finding economically viable and sustainable alternatives for plant protection is therefore of high priority. Plant propagating materials such as seeds, cuttings, plantlets, and bulbs may be hosts for numerous plant pathogens. Therefore, diseases can be effectively spread with such materials across countries and continents, and they may also harbor pesticide-resistant strains. Furthermore, postharvest diseases may cause great economic losses, and fungicide treatments may be often carried out before and after harvest for their prevention. Thermotherapy has been used to treat planting material against pests and diseases in certain crops for decades. Such treatments may eradicate inoculum or slow down epidemics after planting and thus reduce the need for chemical applications. Heat treatments have also been successfully used after harvest of, e.g., fruit crops to reduce storage diseases. However, there is always a balance to be found between plant tolerance to heat treatments and efficacy against the pathogens. The technology of heat treatment and its effects on pathogens and their hosts have advanced over the years. The main aim of this special issue is to gather knowledge on thermotherapy in a set of review papers summarizing previous findings as well as new research based on recent studies.

The topics of this special issue may include:

- Practical use of heat treatment, such as hot water dipping or sprinkling, steaming, or hot dry air, against pathogens.
- Effect of heat treatments on seeds, transplants, and postharvest produce (i.e., plant development and yield after planting, plant damage, storability and shelf life following postharvest treatments).
- Mode of action of heat treatment (i.e., genetics, proteomics, induced resistance)
- Impact of heat treatment on disease control and management of chemical resistance.
- Integration of heat treatment in IPM and organic production.
- Economic viability and impact of heat treatments.

Topics not included in this special issue: Composting, solarization, and soil steaming. Also consult the instructions for authors.

Manuscript Submission Information

If thinking of submitting a review:

Please contact one of the special issue editors.

Reviews are by invitation only.

If thinking of submitting a research paper:

Research papers may be submitted without notifying us. However, we welcome a note with a preliminary title. Send to one of the editors.

Editors: Natalia Peres nperes@ufl.edu

Arne Stensvand arne.stensvand@nibio.no

Gianfranco Romanazzi: g.romanazzi@univpm.it

Manuscripts should be submitted online at <https://www.editorialmanager.com/EJPP>. Select 'yes' when asked 'does this manuscript belong to a special issue?'. Then select the special issue title.

All submissions will be pre-checked for suitability of the topic (see instructions for authors).

All manuscripts that pass the pre-check will be thoroughly reviewed through a peer-review process.