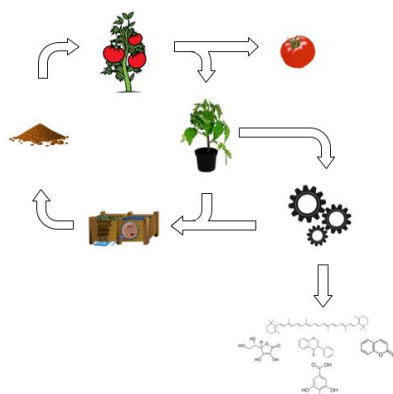


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| <input checked="" type="checkbox"/> Bachelor's thesis | <input type="checkbox"/> theoretical |
| <input checked="" type="checkbox"/> Plant Design and Bioref Project | <input checked="" type="checkbox"/> experimental |
| <input checked="" type="checkbox"/> Master's thesis | <input checked="" type="checkbox"/> constructive |

Topic: Isolation of (bioactive) molecules from tomato waste

Biomass waste streams are often left on fields for rotting or used for thermal energy production. But before we degrade or thermally convert the biomass waste to compost or energy, we can use the high potential of these wastes for production of high valuable molecules.

Tomato is one of the most consumed vegetable, mainly produced in greenhouses, in the world. In 2018 about 182 million tonnes of fresh tomatoes were produced worldwide (FAO2018) (approx. 4.7 million ha) with an average harvest of 38 tonnes ha⁻¹ and a tomato plant waste production of up to 15 tonnes ha⁻¹. Greenhouse tomato plants produce up to 49 tonnes ha⁻¹ vegetative biomass per year.



Tomato residues are rich in a lot of high valuable molecules, like terpenoids, phenolic compounds and glycoalkaloids. The bioactive molecules can be used as antibacterial, antifungal and antiviral agents, which

can play a major role against plant pathogens.

The aim of the work is the isolation of bioactive molecules from tomato waste biomass with steam distillation.

The thesis includes:

- Literature research
- Evaluation and interconnection of unit operations
- Performing of experiments
- Interpretation of data
- Writing scientific reports

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