

DOKTORSKÝ STUDIJNÍ PROGRAM/ DOCTORAL STUDY PROGRAM

NÁVRH TÉMATU/PROPOSAL OF THEME

Studijní program/*Study Program*: **Special Agricultural Science**

Studijní obor/*Branch of Study*: **Exploitation and Protection of Natural Resources**

Katedra/*Department of*: **Soil Science and Soil Protection**

Školitel (včetně titulů), email/*Supervisor*, email: **prof. Ing. Radka Kodešová, CSc., e-mail: kodesova@af.czu.cz**

Konzultant (včetně titulů)/*Co-supervisor*: **Ing. Miroslav Fér, Ph.D., Ing. Aleš Klement, Ph.D.**

Forma studia/*Form of Study*: **Full_time**

Téma/Theme: The impact of soil cover on soil water and thermal regime

Hypotéza/ Hypothesis:

Soil water and thermal regimes can be positively modified by soil cover. The impact of soil cover on water and thermal regime of soil can be simulated using mathematical models.

Anotace/Annotation:

Water and thermal regimes in selected soils under various surface covers (bare soil, grass, various mulching material, concrete etc.) will be studied in the field. Measured soil water contents and temperatures and simultaneously monitored climatic conditions will be evaluated statistically. Hydraulic and thermal properties of soils and different materials on the soil surface will be measured in the laboratory. Structure of soils and various material will be studied using computer tomography. The HYDRUS programs will be used to simulate observed water and thermal regimes and to optimize parameters characterizing different treatments.

Zdroj financování/Source of: NutRisk Centre reg.č.: CZ.02.1.01/0.0/0.0/16_019/0000845

Datum/*Date*: 31.1.2019

Podpis/*Signature*: