Česká zemědělská univerzita v Praze
Fakulta agrobiologie, potravinových a přírodních zdrojů

DOKTORSKÝ STUDIJNÍ PROGRAM

NÁVRH TÉMATU/PROPOSAL OF THEME

Studijní program/*Study Program*: **Crop Science**

Studijní obor/*Branch of Study*: **General Crop Science**

Katedra/*Department of*: **Agroenvironmental Chemistry and Plant Nutrition**

Školitel (včetně titulů), email/*Supervisor*, email: Prof. Ing. Jiří Balík, CSc.

Konzultant (včetně titulů)/*Co-supervisor*: Ing. Martin Kulhánek, Ph.D.

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

Typ tématu/*Type of Theme:* **Framework**

Téma/*Theme:* Sulfur mobility according to fertilizing system and different soil-climatic conditions

Hypotéza/*Hypothesis*: Long-term negative balance of sulfur in soil, mainly due to the limited inputs with atmospheric depositions, will lead to decreasing of mobile sulfur contents in agriculturally used soils and thus, sulfur became limiting in plant nutrition.

Anotace/Annotation:

Due to different reasons (mainly limiting S input due to the decreasing atmospheric depositions), bioavailable sulfur content in soil is decreasing. Monitoring and evaluating the actual S status in soil as well as different fertilizing systems as a potential source of S is also strongly needed. For this purpose, the data form long-term field experiments provide the valuable information about sulfur behavior in soil as well as its cycling in whole agroecosystem.

The aim of these thesis is to evaluate different sulfur forms in soil and its uptake by plants (potatoes, wheat and barley) in long-term field fertilizing experiments.

Second aim is to find the best method to determine real plant-available sulfur in soil. To this purpose, soil and plant (winter wheat, oilseed rape and maize) samples taken up in contrasting soil climatic conditions will be analyzed.

Advanced statistical evaluation will allow us to describe the actual bioavailavle sulfur status in soil and make the prognosis about its behavior in close future including the sustainable fertilizing recommendations.

Zdroj financování/Source of: Regional Development Fund Project NutRisk Centre

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Datum/*Date:* 13.1.2020

Podpis/*Signature:*

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