

CHANGE OF THE GROWING SEASON IN THE CONTEXT OF CLIMATE CHANGE IN SLOVAKIA

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ABSTRACT

Climate change significantly affects agriculture in Slovakia by altering precipitation patterns, temperatures, and the length of the growing season. Common effects include drought, more intense rainfall, higher summer temperatures, and increased pest populations, all of which influence crop production and livestock breeding. Human activities have already impacted atmospheric properties such as temperature, precipitation, CO₂ levels, and ground-level ozone, and this trend is expected to continue. While warmer climates may benefit some crops, the increased frequency of droughts, floods, and heatwaves will challenge growers. In some regions, climate change may make crop cultivation unfeasible.

Farmers in Slovakia must adapt to these changes to mitigate negative economic impacts. Adaptation strategies include using climate-resilient crop varieties, improving soil and water management, and adopting innovative agricultural technologies. Expanding crop cultivation into higher elevations is possible but depends on soil suitability. However, the risk of late frosts is a concern, as an extended growing season could lead to early blooming, followed by frost damage.

Recognizing and addressing climate change's impact on agriculture is essential for ensuring sustainable production, supporting resilience, and reducing environmental harm.

Keywords: climate change, growing season, agriculture

INTRODUCTION

Phenophases are phases in the life of plants related to growth, flowering, and fruit production. Changes in these phenophases can be significant indicators of climate change. The impact of climate change on plant phenophases manifests as temperatures and climates change, affecting the biological processes of plants. Research shows that due to climate change, phenophases in many plants are occurring earlier, meaning plants are blooming and producing fruit earlier than in the past. These changes can affect ecosystem function because many plant and animal species are interdependent on the phenophases that typically follow. [1]

The impact of climate change on plant phenophases also extends to agriculture. Early plant phenophases can influence the timing of planting and harvesting, which can impact overall crop production. Additionally, plants flowering earlier may be susceptible to frost damage if temperatures drop significantly later in the season. Overall, changes in plant phenophases are one manifestation of climate change. The impact of these changes on ecosystems and agriculture can be significant and can have implications for society. Therefore, it is important to monitor and study changes in plant phenophases and take measures to adapt to these changes. [2]