

Table of content

Table of content.....	3
Introduction.....	5
1 Current condition of the field at home and abroad	7
1.1 General characteristics of <i>Corylus avellana</i> L.....	7
1.1.1 Taxonomy and distribution of <i>Corylus avellana</i> L.....	7
1.1.2 World production of <i>Corylus avellana</i> L.....	9
1.1.3 Conditions of <i>Corylus avellana</i> L. growth.....	10
1.1.4 Phenological phases and development of <i>Corylus avellana</i> L. flowers.....	11
1.1.5 Characteristic of <i>Corylus avellana</i> L. male flowers.....	13
1.2 Pollen development	14
1.3 Pollen morphological characterization	16
2 Goals of monograph	19
3 Materials and methods.....	20
3.1 Localities and samples characterization	20
3.2 Biological objects and sampling.....	21
3.3 Image documentation.....	22
3.4 Characterization and morphological analysis of catkins and pollen grains.....	24
3.4.1 Characterization of <i>Corylus avellana</i> L. male flowers	24
3.4.2 Morphology of <i>Corylus avellana</i> L. pollen grains.....	25
3.5 The software used in the processing of experimental activities	29
4 Results and discussion of monograph.....	30
4.1 Morphometric analysis of <i>Corylus avellana</i> L. pollen grains	30
4.1.1 Polar axis.....	30
4.1.2 Equatorial axis.....	33
4.1.3 Aperture diameter.....	35
4.1.4 Pollen grain shape	38
4.2 Pollen grains area measured by Image analysis software.....	38
4.3 Morphometric and weight analysis of <i>Corylus avellana</i> L. catkins	41
4.4 Number of flowers per catkin and pollen production.....	47
4.5 Principal component analysis of pollen and catkins.....	50
4.5.1 Principal component analysis for pollen and catkins traits.....	50
4.5.2 Principal component analysis for pollen traits	51
Conclusions	53

Proposes and recommendation for practice	57
References	58
Annexes	65