

The Wild Apple Tree of Kazakhstan*

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- I. INTRODUCTION
- II. HISTORICAL REVIEW
 - A. The Genus *Malus*
 - B. History of the Wild Apple of Kazakhstan
- III. THE ROLE OF WILD APPLE IN THE VEGETATIVE COVER OF MOUNTAIN REGIONS IN KAZAKHSTAN
 - A. Physical and Geographical Assay of Apple Forest Distribution
 - 1. Tarbagatai
 - 2. Dzhungarskei Alatau
 - 3. Zailiyskei Alatau
 - 4. Kirghizskei
 - 5. Karatau
 - 6. Talasskei

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- B. Features of Forests
 - 1. Hydrography
 - 2. Climate
 - 3. Soil
- C. Wild Apple Role in Plant Cover of the Mountain System
 - 1. Tarbagatai
 - 2. Dzhungarskei Alatau
 - 3. Zailiyskei Alatau
 - 4. Kirghizskei Alatau
 - 5. Karatau
 - 6. Talasskei Alatau
- D. Classification of Wild Apples in Kazakhstan
 - 1. Very Dry Growth Conditions
 - 2. Dry Growth Conditions
 - 3. Semi-moist Growth Conditions on Slopes
 - 4. Semi-moist Growth Conditions Along Valleys
 - 5. Moist Growth Conditions
- IV. THE INFLUENCE OF WILD APPLES ON THE STRUCTURE OF THE ENVIRONMENT
 - A. Influence of Apple Stands on Microclimate and Apple Response to Vertical Zone Conditions
 - 1. Precipitation
 - 2. Soil Temperature
 - 3. Air Temperature
 - 4. Air Humidity
 - 5. Wind
 - 6. Apple Growth and Development in Relation to Meteorological Conditions
 - 7. Climatic Phase Changes as Affected by Different Altitude Zones
 - 8. Setting Stages and Differentiation of Apple Flower Buds
 - 9. Evaluation of Thermal Resources of the Territory
 - B. Dependence of Apple Stands on Soil Conditions
 - 1. Chemical and Water-holding Properties of Soil and Their Changes Under the Influence of Apple Forests
 - 2. Accumulation and Ash Composition of Leaf Fall and Litter in Apple Forests
- V. CHARACTERISTICS OF WILD APPLE GROWTH AND DEVELOPMENT
 - A. Natural Renewal
 - 1. Vegetative Renewal
 - 2. Renewal by Seed
 - 3. The Vitality of Forest Stands from Vegetative Origin
 - B. The Influence of Tree Thinning and Apple Cultivation on Apple Renewal and Stand Preservation
 - C. Growth and Development of Wild Apple Trees in Relation to Natural Renewal
 - D. Structural Features of Apple Root Systems in Relation to Growth Conditions
 - E. Growth, Productivity, and Fruit Bearing of Wild Apple
- VI. INTRASPECIFIC POLYMORPHISM OF WILD APPLE
- VII. UTILITY AND BIOCHEMICAL CHARACTERIZATION OF WILD APPLE FRUIT
 - A. Composition of Apple Fruit Forms with Different Ripening Dates
 - B. Composition of Wild Apple Fruits in Relation to Environmental Growing Conditions

- C. Composition of Wild Apple Fruits That Have Different Flavor Types
- D. Processing Fruit Characteristics of Promising Wild Apple Forms
- E. Changes in the Chemical Composition of Wild Apples During Storage
- F. Processing Characteristics of Wild Apple Fruits
 - 1. Cider
 - 2. Calvados (Hard Cider)
 - 3. Natural Juices and Juices with Sugar
 - 4. Canned Fruits

VIII. PRESERVATION OF WILD APPLES

IX. CONCLUSION

LITERATURE CITED

I. INTRODUCTION

The conditions leading to the development of our work on wild apples are the natural and historical settings of the Republic of Kazakhstan. The enormous territory of Kazakhstan is situated in the center of Eurasia within an area of 272 million hectares. Kazakhstan spreads from the west to the east for 2925 km (from the Lower Volga to the Altai and China), and from the north to the south for 1500 km (from the Western Siberian Plain and the Southern Urals to the Tien Shan ridges and the Kizil-Kum deserts). Within this territory almost all types of landscape of the terrestrial globe are present, from dry subtropics and hot deserts to high-mountain cold tundra and glaciers.

Wild apple trees, as forest-forming and forest-constituting woody plants, have since antiquity occupied considerable area here. A great variety of ecological conditions exist in these regions. The wide range of geographical latitudes and longitudes, and, the variable altitudes and natural barriers in the mountain regions led to the isolation of populations and the separation of interpopulation connections of apple forests and caused intraspecific types to evolve. Consequently, Kazakhstan is one of the most suitable countries for projects aimed at discovering high-quality germplasm for apple resistances. Great value for scientific and practical projects exists because Kazakhstan is the original genetic center of biological variability of wild apples and historically, has formed their rich gene pool. Here, the wild apple formed as a species with numerous subspecies before wider distribution via cultivation. Wild apple species in Kazakhstan, genetically kindred to cultivated varieties of the world, have always grown here and form natural apple forests on specific altitude zones of the mountains. The long-term expeditionary and experimental investigations of these forests, conducted by