International Journal of Botany Studies
www.botanyjournals.com
ISSN: 2455-541X
Received: 05-08-2021, Accepted: 20-08-2021, Published: 06-09-2021
Volume 6, Issue 5, 2021, Page No. 137-139

# Evaluation and stocking of achillea millefolium types

**Novruzova Leman Azad**
Nakhchivan State University, Nakhchivan, Azerbaijan

**Abstract**
The description of the ontogenesis of type A millefolium is based on the forms of the ontogenetic condition. The plant was registered in immature (im), virgin (v), young generative (g1), middle age (g2), old generative (g3), subsenil (ss) and senil (s) periods. The obtained results were analyzed by comparison criterion c2. According to the results of the calculations show that the highest rate of A. millefolium is in the generative stages of development (225-243 pieces).

**Keywords:** araz immortelle, ontogeny, growth period

## Introduction

The modern study of cenological reserve status and at the same time senopopulation (SP) study was to assess the dynamics and productivity in different years. Warmwood is a big genus of intricate flora of st r c family and they can be encountered anywhere in the world. In Azerbaijan flora, warmwood type represented by 4 half-breed combining with 42 taxon (Aleskerova, 2014) [1]. Although their chemical structure, (Aleskerova and Ibadullayeva, 2011; Aleskerova, 2001) [2]. prevalence and reserve in some areas has been studied in plant cover of Azerbaijan but their population structure and fitocenological system not determined. Among these more interesnting as eitheroil plants and medicines. According to the study the plant cover species of the Achillea L. genus has also played a role especially in the winter when they pose in our flora and senoz are different vegetation types are the basis of pastures. Some medicinal plants from flora and ceonopopulation estimated like the ether oil plant such studied the dynamics of their productivity and the supply of reserves have been set for the phases (Kapten, 1983; Krilova and Schroeter, 1971; Mammadova and Ibadullayeva, 2010; Movsumova *et al.*, 2010; Movsumova, 2012) [9, 10, 6, 7, 8]. A millefolium is widespread in Europe, the Caucasus, Western and Eastern Siberia, and even the Far East and Central Asia. It is found mainly in the forest, forest-steppe and steppe regions of southern Europe, Bashkortostan, Volga region, Ukraine, Belarus, Rostov and Voronezh regions. Europe is a mountainous Northern region that covers northern Europe in the east, western France, the northern provinces of Germany and Hungary, the Urals, the North Caucasus, the Balkan Peninsula, Northern Anatolia, Central and Eastern (and sometimes Western) Siberia [2]. It is widespread in dry valleys, meadows, high places of river meadows, forest edges, steppes, roadsides, newly planted forest strips, parks and settlements.

10 species of Achillea L. spread in Azerbaijan and 9 in Nakhchivan AR [1]. Achillea millefolium L. - Common deciduous (synonyms: wood-turning, white-headed, scarred, blood-soaked, wild buckwheat, dye, warrior grass, sickle-like, fragrant grass) is a perennial herbaceous plant, trunk height 20-50 cm, straight, branched, round, slender, leaves on the upper branch shortened. The leaves are alternate, linear-scalpel, double-feathered, two- or three-segmented, and almost spherical, linear-terminated. The stem leaves are 35-50 cm long with a stalk. The roots are thin, creeping. The inflorescence is small (up to 5 mm long), numerous, formed in a complex inflorescence at the apex of the trunk, the edges are yellow with a white tongue (sometimes pink) with an internal scar.

**Fig 1:** *Achillea millefolium* L. - Common deciduous

During the flowering phase of the plant (June and the first half of August) it is necessary to cut the leaves and stems neatly to a length of 15 cm without depriving them of leaves and stems. İf there is an ordinary paint in the vicinity of settlements, it is recommended to transfer it to fields. It is shield – shaped inflorescence and basket should be collected by cutting 2 cm in length.

## Material and Methods

The study material was a species of Achillea Millefolium (Achillea Millefolium) from the Asteraceae (lat. Asteraceae) family. During field surveys and expeditions [5,6], 7 types of plants (semi-desert, mountain-xerophyte, steppe, meadow, forest, shrub, gamma) type A millefolium were identified by us in the area. Special areas were marked and model samples were selected to determine the reserve in specific areas where the species is widespread. In addition, 15-20 model plants from each population - A. millefolium - were extracted and weighed to calculate the plant's raw material reserves. During geobotanical studies [4], a number of

methods were used to study the current state of A. millefolium species and to assess senopopulations.

The stages of development have been characterized in plant characters by using from discrete description concept of ontogeny of Rabotnov (1950) and Uranov (1975) [14, 18]. The description of the ontogenesis of A. millefolium species is based on the forms of ontogenetic status. The plant was registered in immature (im), virginil (v), young generative (g1), middle age (g2), old generative (g3), subsenil (ss) and senil (s) periods. The obtained results were analyzed by comparison criterion $\chi^2$ (Serebriakova, 1976; Zaugol nova *et al*., 1988) [15, 16].

Demographic characteristics of the overall structure of the population data of the plant were used to determine the following:

**Age index**

The age index was calculated as per Uranov (1975) [18].

$$\Delta = \frac{\sum k_i \times n_i}{N}$$

Where, i-ontogenic status, $k_i$ - mark, $n_i$ -number of individuals, i-status of population, N- general number of individuals in population

**The efficiency index**

The efficiency index was calculated as per Zhivotovsy (2001).

$$\omega = \frac{\sum n_i \times e_i}{\sum N_i}$$

$n_i$- number of plants, i-status, $e_i$ - the efficency of plant.

**Conclusion**

During the study, 10 populations were assessed in different phytocenoses in sequential and scattered methods on sites or constructed transects. 1.2. Figure-diagram shows the number of individuals in each population for all phases. As can be seen from the diagram, there are more individuals belonging to the generative development phase. This indicates that the plant is in constant growth.

In different phytocenoses, 10 populations were assessed in the sites located in a consistent and scattered manner. According to the method of studying populations, the structure of their ontogeny was calculated with materials collected from different phases of ontogeny. The results of the calculations show that the highest rate in A. millefolium is in the generative development stages (225-243 units). During the description of ontogeny, the stages of development in plant individuals were also determined. Criteria for comparison were studied by taking notes on the immature (im), virginil (v), young generative (g1), middle age (g2), old age (g3), subsenil (ss) and senil (s) periods of plants.

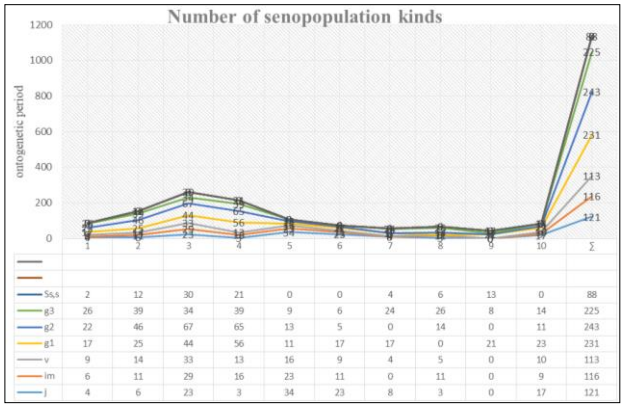


**Fig 2:** A. Dynamics of ontogeny of millefolium species

Integral characteristics of the demographic structure of the plant were determined, age and efficiency indices were studied. Based on the results, the age and efficiency of the populations were determined and reflected in Table 1.1

**Table 1:** Age (growth) structure of A. millefolium senopopulation

| SP № | SP type | Growth phases of ontogeny (in%) | | | | | | | Indices | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | J | im | v | $g_1$ | $g_2$ | $g_3$ | ss, s | Δ | Ω |
| 7 | Immature | 50,2 | 20,5 | 11 | 8,6 | 6 | 2,2 | 1,5 | 0,41 | 0,70 |
| 6 | | 63,8 | 13,7 | 6,9 | 4,2 | 7,8 | 3,6 | 0 | 0,43 | 0,71 |
| 10 | | 14,1 | 10 | 26,2 | 19,0 | 11,7 | 12,1 | 6,9 | 0,58 | 0,77 |
| 8 | Transition | 41,1 | 24,6 | 20,1 | 4,5 | 6 | 2,2 | 1,5 | 0,08 | 0,22 |
| 9 | | 18,9 | 64,6 | 0,9 | 4,6 | 7,8 | 3,2 | 0 | 0,09 | 0,21 |
| 2 | Mature | 6,34 | 21,7 | 8,45 | 19,9 | 21,9 | 25,8 | 9,4 | 0,08 | 0,22 |
| 3 | | 8,40 | 60 | 6,70 | 27,2 | 26 | 19 | 7,7 | 0,09 | 0,21 |
| 4 | | 25,1 | 20,9 | 12,1 | 21,2 | 33,1 | 33,3 | 11,4 | 0,27 | 0,46 |
| 5 | Fully mature | 4,5 | 2,9 | 19,1 | 12,7 | 13,6 | 31,8 | 18,2 | 0,53 | 0,61 |
| 1 | | 6,2 | 10,4 | 16,7 | 16,7 | 18,8 | 6,2 | 25 | 0,44 | 0,54 |

As can be seen from the table, the efficiency factor was higher (ω = 0.70-0.77) at 6.7, 10. This is due to the fact that in these populations the number of plants belonging to the juvenile and immature phases before the generative developmental phases was high and the number of individuals belonging to the aging phases was low.

As A. millefolium is an important plant, its reserves have been calculated by us in the regions (Table 1.4). A. millefolium species dominates the area of distribution. The abundance of the plant in phytocenoses varies between 3-4 points. There are 4-6 plants in every 4-5 $m^2$. The average height of the plant is 45-50 cm. The number of trunks varies between 15-16, age weight is 230-250 grams. It is possible to collect 8-10 thousand plants from 1 hectare in the populations where the plant is spread in the Goygol area, and more.

**Table 2:** Reserve of A. millefolium type by dry weight in the villages of Shahbuz region

| Regions | Distribution area - hectares | Stock density | Biological reserve (kg) | Operational reserve (kg) |
|---|---|---|---|---|
| Batabat arrays | 656 | 9,40 ± 0,56 | 1168,00 ± 71,25 | 584,00± 35,49 |
| Bichenak area | 340 | 8,20 ± 0,49 | 583,00± 34,35 | 291,50 ±12,10 |
| Around Gomur village | 410 | 8,00 ± 0,46 | 453,00 ± 27,10 | 226,30 ±13,58 |
| Kulus village area | 578 | 8,70 ± 0,52 | 1097,00± 67,84 | 548,00 ±35,49 |
| Around Qishlag village | 480 | 8,60 ± 0,53 | 645,00 ± 38,60 | 322,50 ±19,46 |
| Around Kechili | 280 | 7,70 ± 0,46 | 370,00 ± 20,00 | 185,00 ±11,08 |
| Total | 2744 | 9,3± 0,55 | 4316,00± 286,34 | 2158,00±137,56 |

According to the table, the biological resources of the plant in the Batabat massif and the Gomur area were approximately equal, of which 50% could be used. The plant is also highly productive around the village of Ashagi Qishlag and in high mountainous areas.

**References**


1. Aleskerova AN. The study of wormwood species in the flora of Azerbaijan. Report of the dissertation abstracts (Azeri), 2014.
2. Aleskerova AN, Ibadullayeva SD. Role of types of a wormwood in vegetable type flora of Azerbaijan//Reports of Azerbaijan National Academy of Sciences (Azeri),2011:67(1):132-138.
3. Askerov AM. Flora of Azerbaijan (Higher Plants-Embryophyta). Baku TEAS Press Publishing House, 2016, 444.
4. Babaev SY. Geography of the Nakhchivan Autonomous Republic. Baku: Elm, 1999, 298.
5. Ibadullayeva SC. Modern condition of useful plants of Azerbaijan and Ethnobotanical Foundations / International Scientific Dedication to the 80th Anniversary of ADAU, Theses of the Practical Conference, Ganja, 2010, 102-103.
6. Mammadova ZA, badullayeva SJ. Evaluation of cenopopulations of Zangezur catnip species in some phytocenological complexes. In: "Man and the Biosphere" (MaB, YUNESKO) Materials of Azerbaijan National Committee SSN 2079-3898. Ecological Civilization, Sustainable Development and the Environment (Azeri),2010:6:173-177.
7. Movsumova NV, Mammadli TB, Shahmuradova MJ, Sultanova ZR, badullayeva SJ. Studying of a modern type of population of a plant leek from some phytocenological complexes (Capparis herbaceae Willd.). Materials of Institute of Genetic resources of ANAS, Baku (Azeri),2010:2:161-168.
8. Movsumova NV. Cenopopulation assessment of a type of the Cylindrical immortelle (Xeranthemum cylindraceum Sibth. et Smith.) in the territory of the Nakhichevan Autonomous Republic. Materials of Institute of Botany of ANAS, Baku (Azeri), 2012.
9. Kapten YL. Methods of determining the projective cover in floragenetic studies. Bull. Leningrad Univ,1983:6(3):115-116.
10. Krilova IY, Schroeter AI. Methodical instructions on studying of stocks wild-growing medicinal plant. M., Russian research institute of medicinal and aromatic plants: VILAR, 21 (Russian), 1971.
11. Heidemann TS. On the characteristics of rock – xerophytic vegetation of Ordubad district of Nackhichevan ASSR. Tr.Botan. AzFAN Institute. USSR,1936:(2):5-22
12. Prilipko LI Results of stationary observations on leading rubber cones okr. Bichenaka Nah. ASSR // Tr. Bot. in- ta, 1938, 23-68.
13. Prilipko LI Plant relations in the Nakhichevan ASSR. Baku: Izd.Az FAN,1939:(7):196.
14. Rabotnov TA. The life cycle of perennial herbaceous plants in the meadow cenoses. In: Proc. Bot. in the USSR. Ser. 3: Geobotany. Moscow-Leningrad: Publishing House of the USSR Academy of Sciences,1950:(6):179-196.
15. Serebriakova TI. (Ed.), The Coenopopulations of Plants. Basic Definitions and Structure. Nauka, Moscow, (Russian), 1976, 217.
16. Zaugolnova LB, Zhukova LA, Komarov AS, Smirnova OV. The Coenopopulations of Plants. Essays of Plant Population Biology. Nauka, Moscow. (Russian), 1988, 182.
17. Zhivotovsy LA. Developmental ontogenesis, the effective density and classification of plant populations. Ecol. (Russian), 2001:(1):79-81.
18. Uranov AA. The age range of phytoceno populations as a function of time and of energy wave processes. Scientific Report of the Higher School of Biological Science (Russian),1975:(2):7-33.