

PRELIMINARY ON-FARM ESTIMATION OF OLD AUTOCHTHONOUS VARIETIES IN REPUBLIC OF MOLDOVA

ESTIMĂRI PRELIMINARE ON-FARM A SOIURILOR VECHI AUTOHTONE ÎN REPUBLICA MOLDOVA

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Abstract. Preliminary estimations on-farm concerning the presence of old autochthonous varieties in some intracity private vineyards from Central-West zone of the Republic of Moldova are presented. The age of revealed plants was estimated between 60-70 and 100-120 years old and initial planting material was received from various sources. Was attested the presence of old autochthonous varieties Plăvaie, Coarnă neagră, Coarnă albă, Băbească neagră, as well as of some genotypes, considered autochthonous, but with the names not attested in sources (e.g. Moldovenească). Also are presented very old specimen of classical varieties as Chasselas blanc, Chasselas rose, Aligote, Madlen Angevin. At initial stage ampelographic descriptions and ampelometric measurements of mature leaf and bunch and digital photos were made in order to be compared with descriptions of similar old autochthonous cultivars from Institute's Genofond.

Key words: grapevine, on-farm, conservation.

Rezumat. În lucrare sunt expuse estimări preliminare „on-farm” privind prezența soiurilor vechi autohtone în unele plantații particulare intravilane din zona Centru-Vest a Republicii Moldova. Vârsta plantelor evidențiate este cuprinsă între 60-70 și 90-120 ani, materialul săditor inițial fiind din diverse surse. S-a atestat prezența soiurilor vechi autohtone Plăvaie, Coarnă neagră, Coarnă albă, Băbească neagră, dar și a unor genotipuri, considerate autohtone, denumirea cărora nu a fost atestată în sursele de literatură (de ex., Moldovenească). De asemenea, sunt prezente exemplare foarte vechi ale soiurilor clasice Chasselas blanc, Chasselas rose, Aligote, Madlene Angevine. În etapa inițială s-au efectuat descrieri ampelografice și ampelometrice la frunza adultă, strugure, date care au fost acumulate în imagini digitale și au fost comparate cu descrierile analogice ale soiurilor vechi autohtone prezente în genofondul institutului.

Cuvinte cheie: vița de vie, on-farm, preservare

INTRODUCTION

Old native grapevine varieties are characterized by a greater adaptability to local soil and climate conditions. However, during the last century the influence of various unfavorable factors (phylloxera invasion, climate accidents, and as well social-political changes) has led to a dramatic reduction of the area occupied by these genotypes, some of them even disappeared. Aiming in tracing the specimens of an older age, which were preserved in old vineyards, especially in intracity areas, particularly to identify any valuable genetic variability. The collection, preservation

and assessment of these sources were initiated, including through a regional project SEEDNet. The paper presents preliminary estimates of the genotypes detected.

MATERIAL AND METHOD

Estimations were made in four sites located in Moldova's Central West region. Climate conditions refer to Codru viticultural area and are characterized with the length of the active vegetation period of 175-185 days, which allow the adding of a sum of effective temperatures of 3000-3200°C. The average temperature of the warmest month (June) is 21.0 ... 22.0°C and the coldest (January) -3.5 ... -4.5°C. The annual amount of precipitation is 400-525 mm.

Plants found were labeled and documented (table 1).

Tabelul 1

Old autochthonous varieties identified in some individual farms in Moldova

Code of sample	Address of sample	Name of genotype (used by owner)	Estimated age, years	Berry color	Direction of use
MDA004-01-01	Hâncești district, Nemțeni village	Plăvaie	120	Green yellow	Wine
MDA004-01-02	Hâncești district, Nemțeni village	Moldovenească	120	Green yellow	Wine
MDA004-02-01	Hâncești district, Nemțeni village	Moldovenească	120	Green yellow	Wine
MDA004-03-01	Nisporeni district, Șendreni village	Coarnă neagră	80-90	Blue black	Table
MDA004-04-01	Nisporeni city	Plăvaie	120	Green yellow	Wine
MDA004-04-07	Nisporeni city	Coarnă albă	60-70	Green yellow	Table
MDA004-04-28	Nisporeni city	Coarnă neagră	60-70	Blue black	Table

The applied agro technical procedures are the traditional ones for individual households. The vine training systems are the "Moldavian Cup", having wooden stakes as a support, and the high bilateral cordon trellis. Plant health and development are satisfactory. Origin of initial biological material is diverse and not always known.

Starting with the period after the fruit set, at each site 2-3 micro expeditions were performed. On site descriptions and estimations were made, and collected biological material (adult leaves, grapes, annual shoots). The ampelographic description and ampelometric measurements were made in accordance with the OIV list of descriptors (2009). Based on ampelometric measurements (OIV 601 - OIV 617 characters) were calculated ratios, codes by Galet (1979), which together with other ampelographic characters (OIV 076, OIV 080, OIV 081 - 091 OIV, OIV 225) summed up 22 characters used in cluster analysis.

RESULTS AND DISCUSSIONS

Identified plantations are located in intracity regions of the visited localities (in the immediate neighborhood of houses or in areas affected by landslides (fig. 1). These sectors are heterogeneous both by assortment composition and by the plants age. Most of the area is planted with wine grapevine varieties, mainly Aligote and among table grapevine varieties are - Chasselas and Coarnă Neagră.

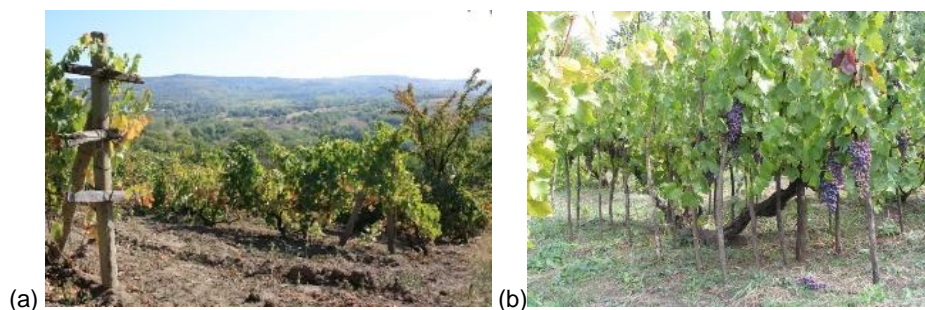


Fig. 1. (a) General appearance of the plantation from Nisporeni city; (b) Coarnă Neagră variety, Șendreni village, Nisporeni district (estimated age 80-90 years).

Plăvaie variety was found in two of the localities visited: in Nemțeni village there is a vine, which, according to the information given by the owner, was estimated of approx. 100-120 years old, and in Nisporeni town - four vines with the average age of 60-70 years. Coarnă neagră and Coarnă albă are the old autochthonous table grapevine varieties found on site. General characters, set mainly by mature leaves and grapes, match to the description of varieties in the sources of literature (Ampelografia Republicii Populare Române, 1959) and to same varieties from the institute's Ampelographic Collection. In the village Nemțeni we discovered a variety named by the owner „Moldovenească” existing in the plantation from the moment of its establishment (fig. 2.a).

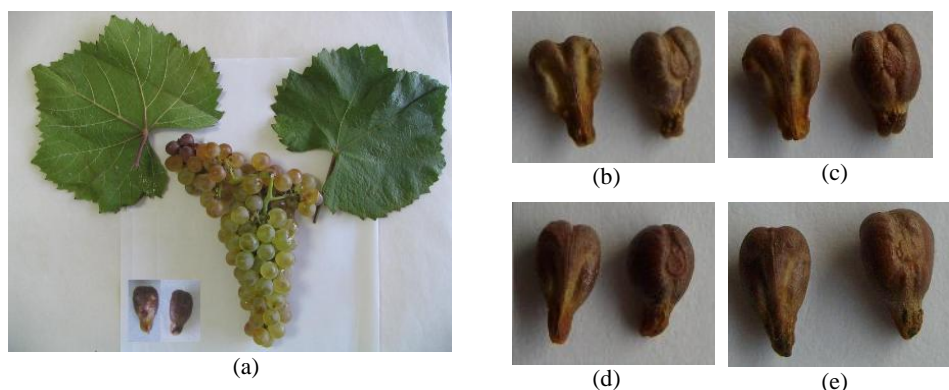


Fig. 2. (a) Variety named „Moldovenească” (Nemțeni), (b)-(c) Coarnă neagră seeds and (d)-(e) Plăvaie seeds (comparison, Nisporeni and ampelographic collection).

We could not attest the name of this variety in literature sources or its presence in other localities. Among the specific characters, we observe full or three-lobed mature leaves, glabrous or scarcely pubescent. Petiole and main veins, to the second bifurcation, have an intense violet coloration. The same color is present on the grape pedicel. Berry is small, round, yellowish-green. Cluster is conical, medium compact single-winged.

Cluster analysis (fig. 3) shows phenotypic similarity of similar genotypes collected from various sources.

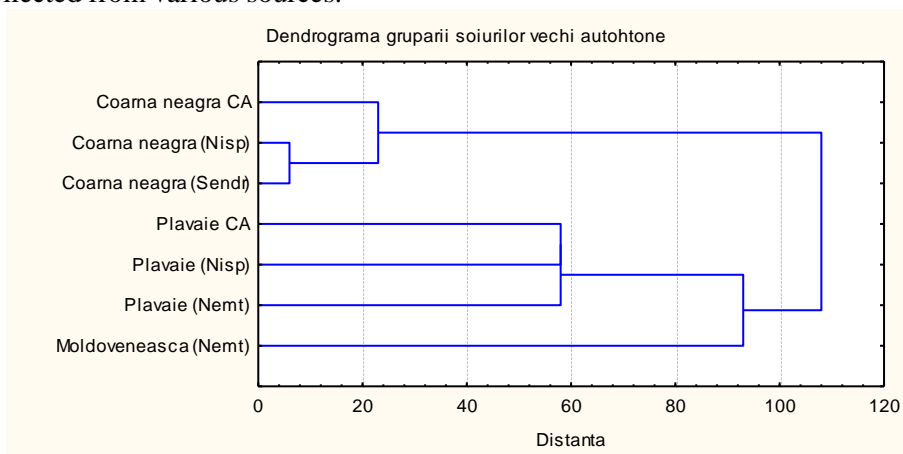


Fig. 3. Classification dendrogram of the old indigenous varieties present on-farm and in Institute's Genofond

For the variety „Moldoveneasca”, a certain similarity was found with the old local variety Galabura, present in the ampelographic collection, but additional estimations are necessary for definitive conclusions.

CONCLUSIONS

1. In some private intracity vineyards from the center-west region of Moldova is confirmed the presence of old local varieties Plăvaie, Coarnă neagră, Coarnă albă with estimated ages between 60-70 years and 100-120 years. Is attested the presence of a variety called Moldovenească, considered native, whose name was not found in literature sources.

2. According to cluster analysis, the phenotypic similarity was established for the specimens of Coarnă neagră and Plăvaie collected from different sources.

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