

S U M M A R I E S

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DEVELOPMENT OF A SUBJECT MAP OF CRIMEAN VINEYARDS BASED ON SATELLITE IMAGERY OBTAINED BY CI4-2

A subject map of Crimean vineyards was developed by use of a novel technology for processing satellite images obtained by the space system CI4-2. The map will be used for inventorization purposes.

V. I. Ivanchenko, V. V. Likhovskoi, N. P. Oleinikov, I. A. Lubianyi

SCIENTIFIC APPROACHES TO ESTABLISHING MODERN BREEDING AND NURSERY COMPLEXES IN VITICULTURE

A concept is substantiated of a breeding and nursery center consisting of several elements, such as greenhouse facilities to grow a total of 50 000 "Original" category rooted vines obtained from in vitro culture and 200 000 "Basic" category grafted rooted vines, a biotechnology and microovinification laboratory, mother vineyards of varieties, basic and pedigree forms to be used in breeding, a clone bank, lysimeters, storage facilities and an office block.

M. N. Borisenko, N. L. Studennikova, Z. V. Kotolovets, P. P. Ajimambetov

THE EFFECT OF OZONIZED WATER ON THE FORMATION OF CALLUS AND SHOOTING BUDS IN GRAPE GRAFTS IN THE STRATIFICATION PROCESS

The effect of ozonized water on the formation of callus and shooting buds in grape grafts in the stratification process was studied, and the results obtained are reported.

V. I. Ivanchenko, V. V. Likhovskoi, N. P. Oleinikov, A. N. Zotov

TECHNOLOGICAL REQUIREMENTS FOR TABLE GRAPE VARIETIES

Key requirements for table grape varieties and structural elements of yield are substantiated based on analysis of the initial material. Selection models of table grape varieties within the immuno-breeding program "Analogue" are discussed.

M. N. Borisenko

IDENTIFICATION OF MINOR ROOTSTOCKS OF GRAPEVINE USED IN UKRAINE

Ukraine's minor rootstocks of grapevine are described in detail from the ampelographic standpoint with an emphasis on their distinctive characters.

M. P. Beibulatov, N. A. Skorikov, P. A. Bouival, S. V. Mikhailov, L. A. Mishunova

SUBSTANTIATION OF NORMS WITH REFER TO THE ESTABLISHMENT AND MAINTENANCE OF VINEYARDS IN THE MOUNTAINOUS REGIONS OF THE CRIMEA

Norm coefficients for calculating per-shift unit capacity in fulfilling mechanized operations in vineyards located in the mountainous regions of the Crimea and Transcarpathia were substantiated. Tables of norm coefficients with account taken of path length without end turns, steepness of slope and soil stoniness were prepared.

S. V. Mikhailov

THE GROWTH AND DEVELOPMENT OF THE GRAPE PLANT PRUNED AND TRAINED TO THE NEW SPIRAL CORDON A30C-1

Cultivation practices of grapevine have to be scientifically substantiated to achieve high yields with desired conditions in a definite grape-growing zone. This implies the need to select a pruning and training form with due account taken of the pruning length as a key factor affecting grapevine productivity.

I. I. Ryff, Yu. A. Ivanov, S. P. Berezovskaia

THE POSSIBILITY TO USE THE BIOTECHNOLOGICAL METHOD FOR DETERMINING SALT RESISTANCE OF GRAPEVINE

Irrigation of vineyards is often associated with subsequent salinization of the soil. Increased salt levels in the root zone lead to the physiological drought. That is why screening of rootstocks for salt resistance is important. The possibility to use the biotechnological method for determining salt tolerance of grapevine is discussed.

M. P. Beibulatov

METHODOLOGICAL APPROACHES TO THE OPTIMIZATION OF GRAPEVINE LOAD

The pruning of a tree or a grapevine is seen as a surgical procedure, which emphasizes the importance to properly regulate this measure. Pruning regulation envisages definite levels of eye, shoot or yield load of the vine as well as definite lengths of its fruit canes. The load levels and pruning lengths of fruit canes of the vine determine the balance of its growth and development. The method for load determination of the vine has to reflect the real balance of these two processes, the vine's vigor and potential and to be usable.

N. V. Aleinikova, N. A. Yakushina, Ye. S. Galkina

LOSSES OF GRAPE YIELDS AS A FUNCTION OF THE EFFECTIVENESS OF PROTECTION MEASURES

Experiment data is provided concerning yield losses as a function of the effectiveness of protection measures applied in Crimean vineyards at different intensities of mildew and oidium infections.

N. A. Yakushina, P. A. Matiukha

THE DYNAMICS OF THE LEAF MICRO- AND MACRO-ELEMENTS OF THE GRAPE PLANT AS AFFECTED BY COPPER-CONTAINING FUNGICIDES

During the vegetation process, the grape plant undergoes biochemical, physiological and phenotypical changes, including those in the leaf levels of micro- and macro-elements. The dynamics of leaf micro- and macro-elements of the grape plant was studied, with the leaf diagnostics as a method for their determination.

A. A. Vypova, A. M. Avidzba, N. A. Yakushina

THE EFFECTIVENESS OF THE NEW BIOLOGICAL PREPARATION SATEC FOR OIDIUM CONTROL AND GRAPEVINE PRODUCTIVITY UNDER THE CONDITIONS OF ENVIRONMENT-FRIENDLY PROTECTION

The new biological preparation Satec proved to be highly effective when applied for oidium control on grapevine. As a result, the yield with good quality was preserved at the level of 58%.

N. P. Bogatiouk, I. L. Danilova, L. A. Timasheva, B. A. Vinogradov

CHANGES IN THE COMPONENT COMPOSITION AND THE CHROMATOGRAPHED PORTION OF ETHEREAL OILS DURING STORAGE

Changes in the component composition of lavender, fennel and wormwood (*Artemisia taurica*) ethereal oils during uncontrolled storage were studied. In each of the study products, the size of the chromatographed portion was affected by storage duration. A decrease in the chromatographed portion of the ethereal oil and its stabilization testify to the self-oxidation processes that take place in the ethereal oils throughout the storage period.

V. I. Ivanchenko, D. S. Stepanenko, D. V. Gribova
A DEVICE TO DETERMINE ELASTIC DEFORMATIONS OF FRUITS OF CUCURBITACEOUS CROPS

The purpose of developing a device to determine elastic deformations of fruits of cucurbitaceous crops is substantiated, the device and its action are described.

E. V. Ostroukhova, I. V. Peskova, P. A. Probeigolova, B. A. Vinogradov

THE EFFECT OF YEAST RACES ON THE FORMATION OF THE AROMA-PRODUCING COMPLEX AND THE AROMA PROFILE OF EKIM KARA RED TABLE WINE MATERIALS

The aroma-producing complexes of Ekim Kara red table wine materials fermented by different yeast strains were compared. The effects of yeast races on the formation of the sensory profile of wine materials were studied.

M. Yu. Shalamitsky, T. N. Tanashchouk, V. A. Zagorouiko

YEAST SELECTION FOR VARIETY WINES WITH LOW DEGREE OF OXIDATION

The effect of different yeast strains used to ferment twenty samples of wine materials from the grape 'Tsitronnyi Magaracha' on the physico-chemical and sensory characteristics were studied, and the results obtained are reported.

A. S. Makarov, I. V. Krechetov, I. P. Loutkov, A. Ya. Yalanetskiy, V. A. Zagorouiko, T. P. Shalimova, B. A. Vinogradov

THE USE OF YEAST AUTOLYSATES IN THE PRODUCTION OF SPARKLING WINES

The effects of yeast autolysates on the quality of sparkling wines were studied.

V. A. Shcherbina, V. G. Gherzhikova, D. P. Tkachenko

A COMPARATIVE STUDY OF TESTS FOR PREDICTING THE SUSCEPTIBILITY OF WHITE TABLE WINES TO CRYSTAL CLOUDS IN RELATION TO THEIR VIRTUAL STABILITY

A number of tests for predicting the susceptibility of white table wines to crystal clouds were studied on a comparative basis. The interrelationship of the indications provided by the tests and the virtual stability of study samples to crystal clouds was established and mathematically described.

V. G. Gherzhikova, N. V. Gnilomedova, N. M. Agafonova, O. V. Riabinina

THE EFFECT OF DIFFERENT FACTORS ON THE FORMATION OF FURAN DERIVATIVES IN MODEL SYSTEMS AND IN STRONG WINES

The accumulation of furan derivatives in strong wines was found to be affected by their pH and the qualitative sugar composition. Ferrous (II) or ferric (III) ions had no influence on this process.

V. A. Zagorouiko, O. A. Chursina, A. B. Vessiutova, D. V. Yermolin, A. S. Makarov, A. A. Sokolov, P. F. Petik

THE USE OF PLANT PROTEINS IN THE PRODUCTION OF SPARKLING WINES

The opportunity to use preparations of plant proteins in the production of sparkling wines was demonstrated. A complex treatment with preparations of plant proteins in combination with bentonite was found to be effective for must clarification and sparkling wine stabilization against colloidal clouds.

O. A. Chursina, V. A. Zagorouiko

ELABORATION OF A TECHNOLOGY TO OBTAIN A NEW GELATIN PREPARATION FOR WINE

The results of a study concerned with the elaboration of a technology to obtain a new gelatin preparation and the use of this preparation in wine making are reported. The physico-chemical characteristics and technological properties of the preparation were studied, and the benefits of its use were established. A decreased molecular weight of the protein molecule and a larger number of reactive groups lead to a highly effective interaction of the enogelatin with tannins of wine materials.

N. A. Shmigelskaia

ON THE USE OF GRAPE CLONES IN THE DOMESTIC WINE MAKING

The prospect of using introduced clones of grape varieties and an approach to their investigation are discussed.

V. A. Vinogradov, A. Yu. Makagonov

CHANGES IN THE PHYSICO-CHEMICAL CHARACTERISTICS OF CABERNET SAUVIGNON WINE MATERIALS PREPARED BY DIFFERENT TECHNOLOGIES

The results of preparing wine materials from the grape 'Cabernet Sauvignon' by different technologies are reported.

V. A. Vinogradov, V. A. Zagorouiko, S. V. Kuliov, N. B. Chaplyghina, L. A. Mikheieva

A STUDY OF THE TECHNOLOGICAL PROCESS OF COMPLEX WINE MATERIAL STABILIZATION AGAINST COLLOIDAL AND CRYSTAL CLOUDS

Optimal modes to treat wine materials for complex stabilization against colloidal and crystal clouds are suggested.

V. A. Vinogradov, K. A. Kovalevskii, O. I. Mamay, A. D. Shanin

RATIONAL SCHEMES OF PROCESSING WHITE AND RED GRAPE VARIETIES INTO RED AND PINK WINES

Equipment and manufacturing schemes of processing grapes into red and pink wines are described.

A. S. Lukanin, S. G. Zrazhva, M. F. Agafonov

THE ROLE OF MICROORGANISMS IN THE PROCESS OF NATURAL DRYING OF OAK STAVES

The effects of epiphyte and endophyte microflora on the formation of the aroma complex in the process of drying and maturation of oak staves to be used for manufacturing wine and cognac casks were investigated over a long-term period. The microscopic fungi of the genera *Alternaria*, *Penicillium*, *Trichoderms*, *Chaetomium* and *Aspergillus* were selected as the dominating ones, and their fermentation activities were studied. The enzymatic profile of ten species of micromycetes isolated from oakwood and the soil in the sites located in the vicinity of oak stave stacks was studied. The species *Alternaria alternata*, *Aureobasidium pullulans*, *Penicillium notatum* and *Penicillium variabile* showed the highest activities as concerns enzyme secretion.

A. S. Lukanin, S. G. Zrazhva, M. F. Agafonov

A COMPARATIVE CHARACTERIZATION OF METHODS FOR DRYING OF OAK STAVES

The method of drying and maturation of stacked oak staves located in open sites and the standard Ukrainian practice relying on drying and maturation of oak staves under protective shelters were evaluated on a comparative basis. Wine distillates aged in casks whose staves were dried and matured in the open sites were higher in syringic aldehydes, vanillin and whiskey lactones relative to those found in their counterparts aged in casks with staves dried and matured under the protective shelters. On the contrary, the drying and maturation of stacked oak staves in the open sites led to wine distillates with lower levels of both phenolics and the dry extract. Compared to an accelerated method using convective dryers over a period of forty days in the medium intensity mode, the natural drying and maturation of stacked oak staves located in the open sites over a period of 36 months was definitely advantageous as concerns the indices of the key aroma components of the oakwood. It is concluded that oak staves for manufacturing wine and cognac casks and large vats for wine distillates have obligatorily to undergo the natural process of drying.

I. G. Matchina

THE POLICY OF PREVENTING ALCOHOL CONSUMPTION: THE STATE AND SOCIETY

The paper is concerned with the effects of alcohol on the human organism, measures aimed at preventing the distribution of the product in different countries and the related consequences as well as with the fundamental principles of the policy of the Ukrainian state in relation to the consumption of alcohol beverages. Factors rendering this policy effective are substantiated.

I. G. Matchina

EXCISES IN WINE MAKING

Factors affecting the consumption of alcohol beverages are discussed. The degree of their influence, the structure of retail price, the effect of excise on the formation of retail price and the distribution of the tax burden between the producer and the consumer of alcohol products are determined.