

PROGRAM PNII –IDEI

Title of the project: ***OBTAINING SOME CULTURES OF LACTIC BACTERIA, WITH PERFORMANT CHARACTERISTICS, ISOLATED AND IDENTIFIED FROM SPONTANEOUS FLORA, IN ORDER TO DEVELOP, IN CONTROLLED CONDITIONS, THE MALOLACTIC FERMENTATION***

CODE OF PROJECT: 436

NUMBER OF PROJECT: 1094/19.01.2009

DIRECTOR OF PROJECT: PROF.UNIV.DR. POPA AUREL

TEAM MEMBERS:

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PERIOD: 19.01.2009/31.10.2011

BUDGET: 900.000 Ron

SUMMARY:

The biological transformation of the malic acid, is an useful and absolute necessary process, for realizing quality red wines. This transformation can be realized by almost all the lactic bacteria of the wine, still their convenience, from the oenological point of view, is far to be the same, so that there is necessary a considerate appreciation of them under this aspect. For dry red wines of a superior quality, the malolactic fermentation has to be integrated in the technological process of their elaboration. It has to be controlled, just as the alcoholic fermentation. The integration of this fermentation leaves from the principle that such wines cannot be considered biologically finished, so that being able to move forward to conditioning and ageing, only if after the alcoholic fermentation they have had finalized the malolactic fermentation. The provocation of the malolactic fermentation with lactic bacteria selected, is the frequently activity in the viticulture country. Through the present programmer we want to obtain in Romania cultures of lactic bacteria with performant characteristics (high degradation of L- malic acid, tolerance to ethanol, tolerance of low pH, tolerance to SO₂, tolerance to low temperatures, low production of volatile acids, metabolism limited by sugars, the minimal forming of biogenic amines, resistance of the processes of congealing and liofilization). The results obtained until now give us the certainty that from the spontaneous flora we coal isolate, identify and use strains of performant lactic bacteria for this activity.

Project objectives:

- *Isolation of the lactic bacteria from the grapes variety, previous establishing;*
- *Isolation of the lactic bacteria from the must;*
- *Isolation of the lactic bacteria from the wines in the differed phases of the prepared;*
- *Identification of the strains isolated on the standard tests;*
- *Taxonomic affiliation of the strains isolated;*
- *The formation of the lactic bacteria collection .*

Results obtaining:

- delimitation of the 7 areas differed for the climatic conditions and establisher 11 the variety of grapes;
- isolation from the grape surface and must 59 strains: 33 belong of the *Lactobacillus plantarum*, 7 belong of the *Oenococcus oeni*, 19 belong of *Leuconostoc mesenteroides*;
- the strains of the *Lactobacillus plantarum* was isolated from the grapes surface (27) and must (6);
- the strains of the *Oenococcus oeni* (7) and *Leuconostoc mesenteroides* was isolated exclusiv from the must.

Performance criteria:

Proposal: 3 research papper indexed BDI

Realized: 1 research papper indexed ISI and 3 research papper indexed BDI