

## Research Regarding the Ecotechnological Factors that Influence the Biological Decline of the Vine, in the Wine Center Blaj

Maria COMȘA<sup>1)</sup>, Ioan OROIAN<sup>2)</sup>, Constantin MIHAI<sup>2)</sup>

<sup>1)</sup> Research Station for Viticulture and Enology, G.Baritiu Street 2, Blaj, Romania;  
 comsa\_m@yahoo.com

<sup>2)</sup> University of Agricultural Sciences and Veterinary Medicine, Manastur Street 3-5, Cluj-Napoca, Romania

### SUMMARY

The biological decline of the vine is the result of multiple factors that may act simultaneously or successively, synergically or otherwise (Tomoiağă, 2006). The objective of this paper is to identify, monitor and characterize the ecotechnological risk factors that play a major role in the biological decline of the vine in the wine center Blaj. The study regarding the premature drying of the vine stocks was conducted during 2009-2010, on plots cultivated with the varieties Feteasca regala, Muscat Ottonel, Riesling Italian and Sauvignon blanc. During the study a number of 1000 stocks from each variety were analyzed. Observations were made both during growth time, as well as during the dormant stage of the vine. Among the ecotechnological risk factors, an important role is reserved to abiotic factors such as: temperature (sudden variations, late spring frosts, low temperatures during winter time), climatic accidents (heavy rainfalls, prolonged drought, hail), incorrect application of the cultivation technology (vine left unprotected during winter). The researchs undertaken in the field and laboratory have identified numerous pathogens responsible for the degradation of the bark and wood of the vine, the most important being: *Agrobacterium tumefaciens*, *Eutypa lata*, *Phomopsis viticola*, *Stereum hirsutum* (Tomoiağă, 2007). In 2010 the number of stocks affected by premature decline was significantly higher compared with 2009. The main contributing factors were both the unfavourable climatic conditions (the low temperatures in the winter of 2010, below the freezing limit of the vine; heavy rainfalls and the cool weather in the first part of the vegetation period) as well as the development of pathogens.

Tab. 1

The number of stocks affected by the biological decline during 2009 - 2010

| Variety          | Low temperatures during winter |      | Lignicol pathogens |      | Mechanical causes |      | Other causes |      |
|------------------|--------------------------------|------|--------------------|------|-------------------|------|--------------|------|
|                  | 2009                           | 2010 | 2009               | 2010 | 2009              | 2010 | 2009         | 2010 |
| Fetească regală  | 25                             | 240  | 40                 | 120  | 5                 | 6    | 2            | 3    |
| Sauvignon Blanc  | 10                             | 106  | 25                 | 105  | 6                 | 5    | 3            | 2    |
| Riesling italian | 35                             | 235  | 42                 | 115  | 5                 | 4    | 3            | 3    |
| Muscat Ottonel   | 24                             | 98   | 25                 | 88   | 5                 | 6    | 2            | 2    |

**Keywords:** vine variety, biological decline

### REFERENCES

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