

## Correlations between Aesthetic Quantity of the Species Traits and Essential Oil of *Valeriana officinalis*

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### SUMMARY

The main objective of this study is to identify and evaluate opportunities for conservation, diversification and exploitation of genetic resources at species *Valeriana officinalis*, a species that has multiple uses (medicinal, ornamental, food). The biological material used was composed of about 100 genotypes selected under 100 MAGURELE varieties, varieties that have high heterogeneity (Bobit *et al.*, 1992). For the genotypes studied were made measurements of the content and production of volatile oil and aesthetic qualities of the plant and the number of plantlets per plant and flowering stem height. Based on the data obtained was calculated the correlation index (Ardelean, 2006). Analysis of data summarized in Table 1 shows that the number of plantlets/plant is very significantly negatively correlated with the content and production of oil, thus, explaining that oil content decreased during periods of increased 'activation' and development of plant vegetative buds plantlets. At the flowering strains height we can see a very significant negative correlation with oil content which justify the decreased ability of biosynthesis of flowering period. As a general conclusion we can say that for obtaining higher volatile oil content in *Valeriana officinalis*, should be considered the period when harvesting is done and who should be outside the phases when it occurs daughters plants development and flowering.

Tab. 1

Correlations established for *Valeriana officinalis* genotypes (P 5%= 0.20; P 1%=0.26)

No. crt.	Nature	Volatil Oil Production	No. plantlets plants / plant	Flowering stem height	Number of blossomed strains/ plant
1.	Volatil oil content	0.580***	-0.385 <sup>000</sup>	-0.272 <sup>000</sup>	0.141
2.	Volatil Oil Production		-0.342 <sup>000</sup>	-0.131	-0.1680
3.	No. daughter plants / plant			-0.099	0.114
4.	Blossomed stem height				0.21 <sup>*</sup>

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**Keywords:** genotypes selected, heterogeneity, character correlation

### REFERENCES

1. Ardelean, M. (2006). Principles of veterinary medical and agricultural research methodology (in Romanian), Edit. AcademicPres, Cluj-Napoca. 156
2. Bobit, D., C. Chipier and A. Marculescu (1992). Study on influence of technological factors on production and essential oil content of the species *Valeriana officinalis* L. (in Romanian), Lucrarile Statiunii de Cercetari "Stejarul", XII, 61-64, Piatra Neamt.