

## PO-32

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### Metabolism of sterols and pentacyclic triterpenoids in grapevine *Vitis vinifera* leaves elicited with methyl jasmonate

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In the context of pesticide misuse, elicitor-triggered stimulation of natural resistance represents a promising sustainable disease control approach in vineyard. Applied elicitors should be tested not only for their ability to induce defense reactions but also for their impact on the overall plant vigor. Study on triterpenoid biosynthesis in elicitor treated plants allows to follow both primary and secondary metabolism. Sterols play essential role in formation of cell membranes and regulation of their fluidity. Defense function and accumulation of some pentacyclic triterpenoids in response to elicitation was reported [1,2]. In this study, greenhouse *Vitis vinifera* cv. Cabernet Sauvignon cuttings were sprayed with methyl jasmonate known for inducing a large number of defense responses in grapevine [3]. The young, medium, and old leaves were harvested after 7, 14, and 21 days post-treatment (d pt) and subjected to GC-MS/FID analysis of triterpenoids. Significant decrease of sterol content was observed in treated leaves, the most spectacular decline (4.93 times) was noted in old leaves 7 d pt. Elicitation triggered a slight accumulation of pentacyclic triterpenoids uniquely in old leaves at 14 d pt. The quantities of taraxerol,  $\beta$ -amyrin,  $\alpha$ -amyrin/lupeol,  $\alpha$ -amyrenon and lupeol acetate increased 1.60, 3.45, 3.07, 5.07, 1.24 times, respectively. After 21 d pt the amounts of sterols and pentacyclic triterpenoids were progressively pursuing to the levels present in control leaves.

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#### References

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