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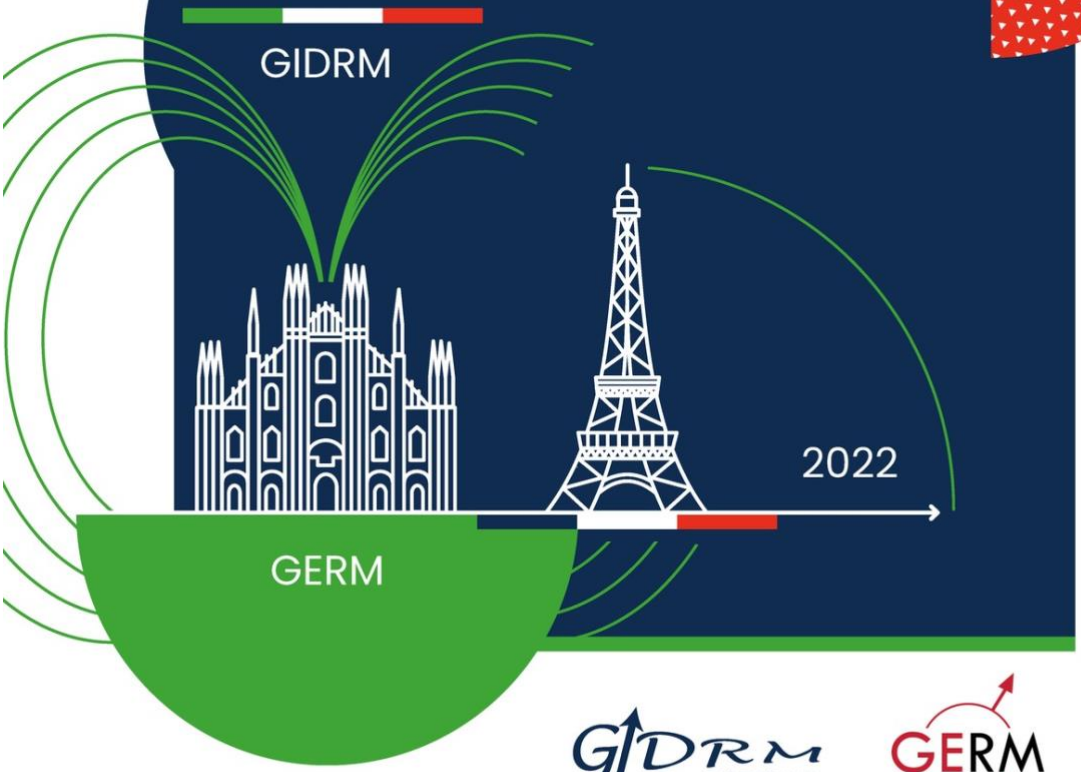

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[P-64] NMR-BASED METABOLOMIC APPROACH FOR AGING DISCRIMINATION OF GRANA PADANO PDO CHEESE

V. Maestrello,[‡,†] P. Solovyev,[†] P. Franceschi,[†] F. Camin,[‡,†] A. Stroppa,[ǂ] L. Bontempo[†]

[‡]Center Agriculture Food Environment (C3A), University of Trento, Via Mach 1, 38098 San Michele all'Adige, (TN), Italy
[†]Fondazione Edmund Mach (FEM), via E. Mach 1, 38098, San Michele all'Adige (TN), Italy
[ǂ]Consorzio Tutela Grana Padano, Via XXIV Giugno 8, 25010 San Martino Della Battaglia, Desenzano del Garda (BS), Italy
E-mail: valentina.maestrello@unitn.it

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Grana Padano PDO cheese is one of the most renowned Italian cheeses, thanks to its high quality and nutritional value [1]. Its aging can vary from 9 to over 20 months, and, as the aging increases, so does the price, because during storage the organoleptic characteristics can improve, giving the product a strong flavor. To prevent the mislabeling of these high-quality products, it is necessary to perform aging assessment, and this can be done with different approaches. The aging is strictly connected with the period of production related to months and years and in this study, we tried to analyze a large dataset of Grana Padano PDO cheeses produced in different periods of the year by ^{1}H NMR spectroscopy using an untargeted approach. After the analysis of the samples, we performed a multivariate statistical analysis to separate the different classes and identify the most discriminant signals. It was possible to develop a model that can distinguish samples with different aging time in a fast and reproducible way, which can be interesting also for industry.

References

[1] A. Summer, P. Formaggioni, P. Franceschi, F. Di Frangia, F. Righi, and M. Malacarne *Food Technol. Biotechnol.* **55**(3), 277-289 (2017)