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**ABSTRACT** - *Change of the composition and evolution of the proteolysis of Parmigiano-Reggiano cheese during ripening as regards the shape (outer and inner part) of the wheel.* - The evolution of the ripening of Parmigiano-Reggiano was studied by analysing the outer part and the inner part

taken from 52 wheels. During all the ripening, lasting up to 24 months, a significative difference was detected between the centre and the periphery of the cheese. Instead fat and protein, expressed on dry matter, showed an uniform distribution in the mass. With regard to proteolysis, the differences between the inner and the outer part of the cheese resulted very low and showed opposite signs. In particular during the first months of maturing, in the inner part nitrogen compounds with low molecular weight (nitrogen soluble in phosphotungstic acid) were in greater amount, while the compounds with high molecular weight (nitrogen insoluble in trichloroacetic acid 12%) were in lower amount compared to the outer part. Then, beginning about from the sixth month of ripening, the differences decreased and, in some cases, the sign was inverted. The distribution of the other nitrogen fraction (peptides and ammonia) appeared casual during the whole ripening.