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A Review on the Use of Eggshells as a Raw Material for Production of Calcium Preparation

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Abstract: *There are a lot of calcium supplements on the market, particularly those that include calcium carbonate, which is sadly not sufficiently absorbed by the body.*
The study examined the release kinetics of calcium in the form of calcium citrate and calcium carbonate from tablets made from modified eggshells. The release of calcium exhibited first-order kinetics. During the first half of the trial, 79.93% of the calcium in the form of calcium citrate was released from tablets made from modified eggshells; after three hours, this percentage reached around 100%. These values were 7 and 60% for the calcium carbonate-produced tablets, respectively. Calcium in the form of calcium citrate was released four times faster than calcium carbonate, with the half-time of calcium release from tablets containing calcium carbonate being t50% = 2.2 h and from tablets containing calcium citrate being t50% = 0.5 h. These findings may be related to the varying solubility of calcium salts

Keywords: Calcium supplement, Waste renewal, Eggshell, Calcium extraction, Health