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## Microencapsulation of vanilla (*Vanilla planifolia* Andrews) and powder characterization

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### ABSTRACT

Natural vanilla extract (NVE) and synthetic vanilla extract (SVE) were microencapsulated by spray-drying, using whey protein concentrate (WPC) as wall material. Physicochemical properties, volatility profile, vanillin concentration and antioxidant activity were evaluated by measuring total polyphenols, the inhibition of radical scavenging activity by DPPH, chain-breaking activity and reducing power. Both microparticles exhibited high vanillin retention and antioxidant activity during spray dried process, but microparticles of SVE-WPC showed higher vanillin retention than microparticles of NVE-WPC during storage. The micrographs of the microcapsules showed morphological characteristics that were ideal for ensuring stability and integrity during storage to different water activities.

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