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| 摘要(中) | <p>本研究於綠茶粉中添加維生素 C 對綠茶粉貯藏品質的影響，並由香氣特徵、顏色及滋味等方面評估之。研究中，綠茶粉添加維生素 C (2 mg/g-茶粉) 後，在 35 ?C 及 45 ?C 不封口環境中貯藏十二週，以 purge and trap 收集茶湯中香味物質，配合氣相層析質譜儀 (GC-MS) 分離鑑定各香味單體；並經由六位品評員品評茶湯在香氣、色澤及滋味的變化。收集</p> |

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| | <p>的香味物質經 GC-MS 鑑定得十七種香氣物質。添加維生素 C 之綠茶粉中，青草味總量及花香味總量在貯藏前期可維持 6-8 週的穩定量，且維生素 C 的添加會使青臭味總量與油耗味總量快速增加的時間延後三至五週。在 35 ?C 及 45 ?C 貯藏時，當維生素 C 殘存量分別低於 0.8 mg/g (40%) 及 1.1 mg/g (30%) 後，不良氣味物質才開始大量增加。維生素 C 的添加，在貯藏開始數週內會對其它組成成份提供抗氧化的保護效果，使不良氣味延後產生。貯藏於 35 ?C 添加維生素 C 之綠茶粉的茶湯顏色至第三週才有顯著差異；而在 45 ?C 時，添加維生素 C 並未能明顯防止茶湯顏色劣變，且對茶湯滋味亦無顯著影響。整體而言，添加維生素 C 可安定綠茶粉的香氣成份，防止氧化不良氣味產生，當綠茶粉中維生素 C 含量低於 1.1 mg/g 時，始可察覺青臭味及油耗味。</p> |
| <p>摘要 (英)</p> | <p>The purposes of this study were to investigate the effects of vitamin C supplement on the quality of green tea powder during storage, and evaluate the influences in aspects of aroma components, color, and taste of infusion. Green tea powder was supplemented with 2 mg vitamin C / g-tea powder, and stored in open PE pouches at 35 and 45 ?C over 12 weeks. Odor compounds of tea infusion were collected by a purge and trap system, and the volatiles were separated and identified using GC-MS. Meanwhile, changes of odor characteristics, color, and taste of infusion were also evaluated by 6 trained panelists. Of volatile compounds separated by GC-MS, seventeen odorants in infusion were identified. Total amount of grassy and floral components were noticed unchanged in the first 6 to 8 weeks in the presence of vitamin C. Lag times to rapid formation of off-flavor, such as green and oily, were extended 3-5 more weeks in supplemented samples. Off-flavor components formed dramatically when residual vitamin C dropped to 0.8 mg/g (40%) and 1.1 mg/g (30%) stored at 35 and 45 oC, respectively. Supplement of vitamin C provided a protection against oxidation in the early stage of storage, and resulted in suppression of off-flavor formation. No significant difference was observed in the infusion color of vitamin C enriched samples compared to original sample in the first 3 weeks storage, however, the addition of vitamin C didn' t prevent the color change in samples stored at 45 ?C. Therefore, vitamin C supplement stabilized the odorants in green tea powder and suppressed the production of off-flavor compounds. No green and reversion odors were noticed until the residual vitamin C less than 1.1 mg/g-green tea powder.</p> |
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