



# Agricultural Journals

*Czech Journal of*

**FOOD SCIENCE**

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# **Czech J. Food Sci.**

**Zhao H., Zhou F.,  
Dziugan P., Yao Y.,**

Zhang J., Lv Z., Zhang B.:

## Development of organic acids and volatile compounds in cider during malolactic fermentation

Czech J. Food Sci., 32 (2014): 69-76

The effect of malolactic fermentation (MLF) on the flavour quality of cider was examined. *Leuconostoc mesenteroides* subsp. *mesenteroides* Z25 was used to start MLF taking place at 25° C for 12 days after the completion of alcoholic fermentation (AF) by *Saccharomyces cerevisiae*. Strain Z25 showed good activity in starting MLF of cider with 10% alcoholic concentration. The content of malic acid, whose high concentration gives negative organoleptic characteristics to the cider, dropped significantly from 4.0 g/l to 0.25 g/l via MLF. The concentration of lactic acid increased significantly from 0.99 g/l to

0.66 g/l, contributing to volatile acidity. The acetic acid content of the ciders was 0.74 g/l. Among 51 volatile compounds detected by GC-MS, higher alcohols, esters, and carbonyl compounds were formed in ciders through MLF. The total concentration of aromatic substances doubled compared to the controls. The occurrence of MLF started by strain Z25 enabled the cider containing more volatile compounds and an acceptable adjustment of organic acids. This is the