Application of Microwave Drying to Chimonanthus praecox

Absrtact: The fire strength, treatment time and material quality of microwave dried waxberry were screened by water loss rate and rehydration rate. The results showed that the suitable ranges were 80%-100%, 80-120 s and 15-20 g, respectively. The effects of three factors (microwave fire intensity, microwave treatment time and material quality) on the quality of dried waxberry flowers were studied by orthogonal experiment design at three levels L (33). The water loss rate, rehydration rate and sensory score of dried waxberry flowers were determined.

The results showed that microwave drying equipment I (100% fire strength + 100 s treatment time + 20 g material quality) had 26.5 and 11.5 percentage points higher water loss rate and rehydration rate than A treatment (50% fire strength + 80 s treatment time + 10 g material quality), and 6 points higher sensory score than A treatment.

Comprehensive comparison shows that treatment I (100% fire strength + 100 s treatment time + 20 g material quality) is the best treatment combination for microwave drying of waxberry blossoms.

Key words: microwave drying of waxberry flowers; microwave drying method; water loss rate; rehydration rate

Chimonanthus praecox has a long history of cultivation and high application value in China. Chimonanthus praecox tea is recorded in Chinese Pharmacopoeia for the prevention of influenza, and Chimonanthus praecox flower is recorded in Guiyang Folk Herbs for the treatment of persistent cough. Xu Wenyue et al reported that Chimonanthus chinensis has the effects of relieving cough and phlegm, anti-inflammatory and antipyretic, Liu Li et al. reported that Chimonanthus chinensis flower has the function of enhancing immunity.

Jiang Ting and others reported that the flower oil refined from Waxberry buds had a remarkable effect on scald. With its elegant fragrance and mellow and fresh taste, Chimonanthus flower tea is very popular with consumers. For a long time, how to improve the aroma of Chimonanthus camellia and how to improve the aroma and fresh color of Chimonanthus Camellia are the main objectives of drying technology research.

From the point of view of different microwave firepower intensity, the water loss rates of J, K and L are significantly different (P