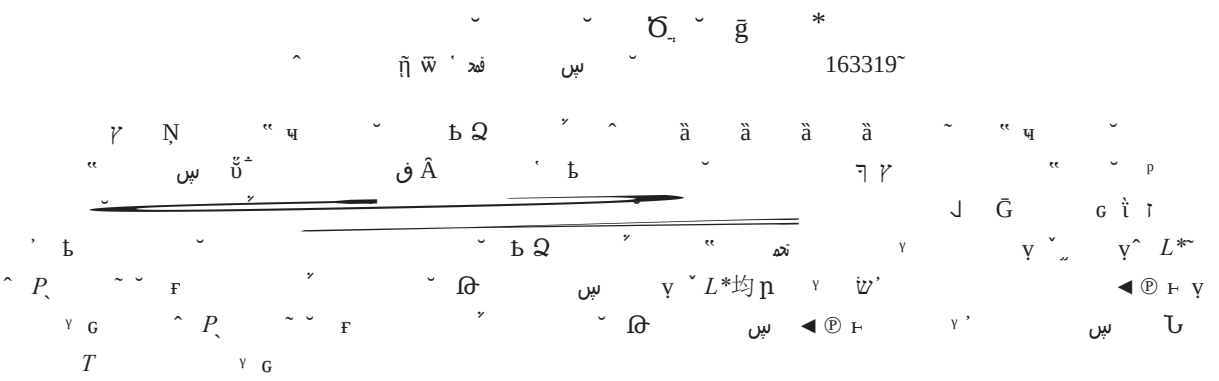

characteristics. Still water thawing (20 Ņ) was used as control group, while ultrasonic thawing at fve different powers (100, 200, 300, 400 and 500 W) were used as treatment group. The results showed that ultrasonic treatment shortened thawing time but increased thawing loss compared with the control group. Cooking loss increased with ultrasonic power, and the water-holding capacity of 200 W ultrasonic treatment was higher than the other treatment groups. But pH value and *L** value were signifcantly lower in all treatment groups except the 100 W group than the control group ($P < 0.05$), and they were inversely correlated with ultrasonic power. Ultrasonic treatment at 500 W caused a signifcant increase in shear force in comparison with the control group ($P < 0.05$), and the shear force decreased with increasing ultrasonic power. Moreover, the transverse relaxation T peak area ratio in the control group was signifcantly lower than in the 500 W ultrasonic treatement group ($P < 0.05$), and this parameter increased with ultrasonic power. Water-soluble and salt-soluble protein contents both decreased with the increase in ultrasonic power. The above results demonstrated that an ultrasonic power of 200 W was the optimal thawing condition to not only shorten thawing time but also lessen the deterioration of pork quality.

Key words: ultrasonic thawing; still water thawing; ultrasonic power; pork quality

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1 材料与方法

/% $\frac{S_1}{S_2}$ 100

/mm /mm

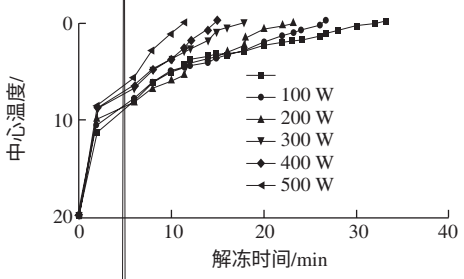

图 1　不同超声波功率解冻对猪肉解冻时间的影响

Hope-Jones 1 cm 5 mm/s 5 g 30 kg

Gao Tian ‰ 2 g 1.5 cm low field nuclear magnetic resonance LF-NMR Q-CPMG T 22 MHz τ 0.15 ms 3 000 ms

‰ 3 g 50 mL 18 mL 14 000 r/min 2 min ×*g* 10 min 18 mL 3% 14 000 r/min 2 min ×*g* 10 min

P= Origin 2016 ‰

2　结果与分析

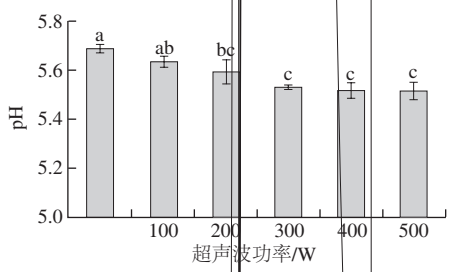

图 2　不同超声波

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