

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This study can be summarised as follows:

1. The optimum accepted formulation of ostrich-meat yor was assessed by 36 panelists. These conditions were 2% (w/w) NaCl, 0.25% (w/w) sodium tripolyphosphate (STPP), 2% (w/w) pepper and 5% (w/w) garlic.
2. Combined pressure, temperature and time 700 MPa, 40°C, 40 min could be used to texturise ostrich-meat yor which also supported by disappearance of the peaks from the DSC thermogram indicating protein denaturation. Colour measurement (L^* , a^* and b^* system) also complied with the thermal denaturation of the protein.
3. The gradients of slopes of stress relaxation plots and gel penetration strength depended on the severity of treatment conditions. This reflected the degree of cross-link formation imparted by the hydrophobic interactions as well as the contribution of the disulphide bonds as evidenced by the electrophoregram.
4. Addition of 4% (w/w) of soy protein isolate (SPI) in the pressurised samples gave the best emulsion stability (smallest fat droplet size) and the highest water holding capacity. These samples also showed the highest score in the sensory evaluation. Water holding capacity and sensory score of all pressure treated samples were superior to those which had been heat treated. The pressurised sample with 4% (w/w) of whey protein isolate (WPI) displayed strongest rheological properties for examples the gel strength, storage and loss moduli.

5. Viscoelastic behaviour and overall gel strength of heated samples appeared to be stronger than those of pressurised meat yors. The storage modulus of all the heat treated samples predominated whereas the creep curves for both treatments were fitted to the same eight-Burger element model.

5.2 Recommend for further investigation

1. Other animal meat proteins and non-meat proteins may be used to replace ostrich meat using the same pressurised condition as those used in this investigation.

2. Further investigation on the inactivation of bacterial spores and other pathogenic microorganisms such as *Bacillus* spp., *Clostridium perfringen* etc. under the same condition (700 MPa, 40°C, 40 min) should be conducted.

3. Some further investigation of the interactions between ostrich meat protein and other meat proteins with non-meat additives should give useful results.

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