



# Worthwhile Operational Guidelines & Suggestions

BROILER PROCESSING TIMELY INFORMATION – JUNE 2006

## Basics of scalding

Feathers represent about 7% of the live weight of a broiler chicken. Feathers only grow on specialized areas (feather tracts) and provide a moisture-proof insulation for the skin. Feathers are removed during the early stages of processing, as their presence on the finished product is not desirable from a wholesomeness and quality standpoint. Prior their removal, feathers must first be wetted-down by the scalding process. Immersing carcasses in warm water not only loosens the feathers by relaxing the muscles that hold the feather in the skin, but also increases the density of the feathers to facilitate de-feathering.

Improper scalding results in poor picking, skin damage (tears, barking), yield loss, and higher microbial counts on the carcass. Optimal scalding is a function of:

1. **Temperature:** Range 124 F (51 C) to 140 F (60 C), depending upon the need to remove the outer layer of the skin (cuticle) and the chilling method (water or air).
2. **Time:** Range 45-180 sec, depending upon the scald temperature and number of scalding tanks used.
3. **Agitation:** Adequate water movement (via water pumps or air diffusers) to penetrate the water-resistant feathers and for complete immersion (i.e., to prevent carcasses from ‘floating.’

State-of-the-art multi-stage scalding systems (i.e., counter-current flow of carcasses and water; air agitation; hot water injection; real-time temperature monitoring and total enclosure) have provided for better temperature control, more consistent de-feathering, lower microbial counts and lower energy cost.



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