



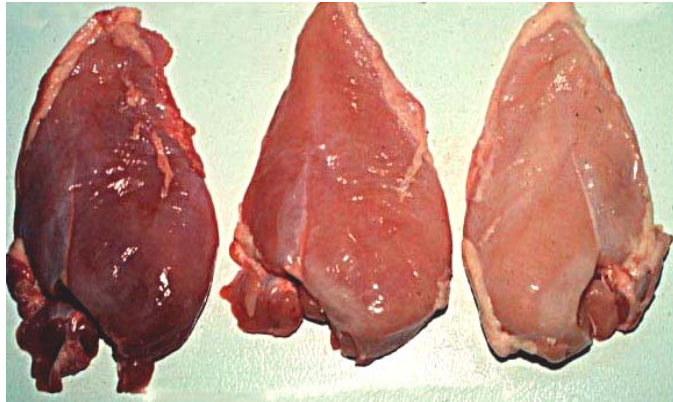
Worthwhile Operational Guidelines & Suggestions

BROILER PROCESSING TIMELY INFORMATION - OCTOBER 2003

PALE, SOFT, AND EXUDATIVE MEAT

Pale, soft, and exudative (or PSE) breast meat is being observed in increasing frequency in turkeys and broiler chickens. As illustrated in the picture, such fillets have noticeably lighter or paler color which can be objectionable to the consumer, especially products sold on a raw, tray-pack product from. PSE breast muscle typically exhibit low pH and poor water holding capacity. Whether it is the natural juices (lean tissue contains about 70-75% water) or the added moisture (marinades), increased drip losses (weepage or purge) in raw and cooked products can be a significant quality issue (yield and shelf-life) for the processors.

Post-mortem rate of pH decline and its ultimate level are very important in terms of meat quality and color development. A rapid drop in muscle pH immediately after death when the meat temperature is still high denatures muscle proteins and produces this exudative condition.



The pale color results from more light being reflected from the looser muscle structure. Higher incidence of PSE condition is observed during the summer months, probably due to heat stress. Light reflectance has been measured to segregate PSE-like breast meat. Lightness (L^*) values of $>49/50$ is typically used to identify the PSE-like meat in broiler breast meat; whereas, $L^* > 52/53$ is used for mature turkey hens. Factors contributing to this condition are not fully elucidated. However, pre-slaughter stressors (including heat stress) and the rate of carcass chilling (slow) have been correlated with the development of pale, soft and exudative condition in poultry.



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