

Chicken Breast Skin Membrane Identification

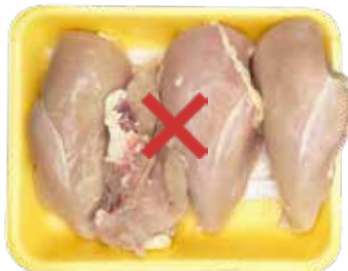
Styled for Retail

Have you ever noticed how carefully packed the chicken breasts are at the grocery store? Poultry producers meticulously craft the presentation of their trays, taking immense pride in ensuring an appealing aesthetic. Consumers have repeatedly demonstrated that they are more likely to purchase an appealing and aesthetic package. An imperfect presentation can be perceived as a damaged or poor-quality product. To maximize the sell-through of their product, poultry producers implement strict styling guidelines at their factories. Some examples of such requirements include:

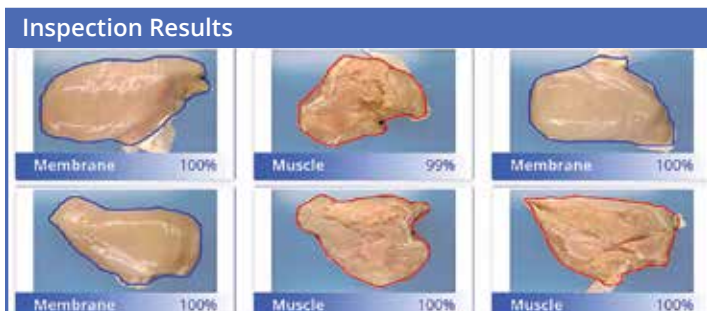
- Chicken breasts must be placed in the package with the skin membrane side facing the shopper.
- Chicken breasts must be placed in alternating directions from shoulder to tail to maximize tray space.
- Chicken breasts must be centered in the tray and not overlap the edge of the tray.



Pristine Styling



Poor Styling



Soft Robotics data dashboard displaying membrane orientation

BUSINESS CHALLENGES

Labor Shortages in Poultry Processing

The pandemic has worsened the protein industry's labor shortage, making it extremely difficult to maintain a stable workforce. Increased labor costs and constant turnover have made onboarding new employees expensive, time-consuming, and unsustainable.

Traditional Machine Vision Isn't Enough

Plenty of traditional machine vision solutions are available for manufacturing repeatable parts; however, the natural organic variability found in poultry cuts presents a significant challenge to these solutions. In particular, the membrane side of a chicken breast has a large degree of variance between products. This level of variability renders blob, edge, and pattern-matching tools ineffective when inspecting products at high rates.

A NO-CODE, AI-ENABLED SOLUTION

AI-enabled vision solutions from Soft Robotics are revolutionizing the poultry industry by delivering advanced inspection and vision-guided robotic picking capabilities. These innovations significantly reduce dependence on human labor while ensuring consistent and predictable throughput.

In one standout application, the vision system leverages a specialized, pre-trained object model to detect incoming chicken breasts and accurately inspect for skin membrane presence, facilitating seamless downstream manipulation. The result? An appealing and aesthetic package styled for retail.

Furthermore, the system streams product data to an intuitive dashboard, empowering process engineers to implement strategic enhancements in upstream processes and personnel management, ultimately boosting yield and efficiency.