# FOOD TECHNICAL SERVICES

## PROJECT: FOOD SURFACE CONDENSATION & MOISTURE CONTROL ON MEAT & SEAWEED

**Applying Food Technology / Psychrometry to control condensation/moisture & food spoilage**

### The Issue

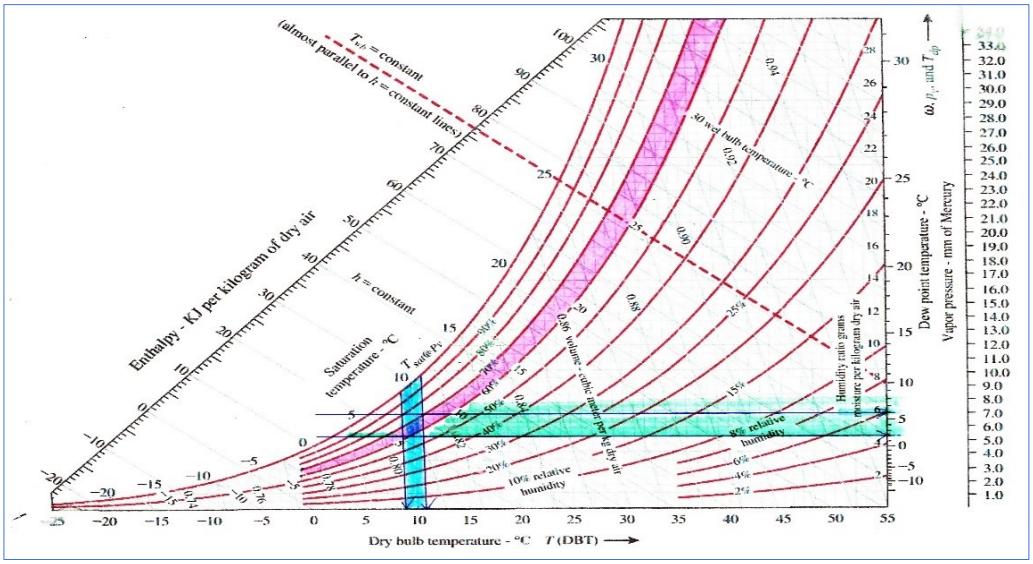
A cured meat business had been experiencing condensation issues on product surfaces before & after final skin packing; customer complaints & microbe counts had risen & were thought to be moisture related. The process involved part processed (packed frozen unsliced cuts) being routinely defrosted then transferred to a "de-pack - slicing -re-packing" area with air temperature set at 9-11$^{o}$.

### The solution

After chat on the phone regarding: options on controlling microbe/moistures - measurements were taken:

- Water activities (equilibrium relative humidity) of the cured meats
- Ambient air humidity and temperature ranges of the de-pack/re-pack area
- Surface temperatures of defrosted product after de-pack and prior to re-pack.

Armed with the data & basic Psychrometric charts we could see that surface condensation and microbe growth were inevitable but probably manageable with the facilities and environmental controls available at the premises.





### Action and Results:

With room temp (dry bulb temp blue on chart) restricted to 9-11$^{o}$C, & room humidity (pink on chart) within 60-70% - the business would be able to eliminate surface condensation if open product surfaces were kept above max dewpoint (5.5$^{o}$C ie top of green bar). As 6-8$^{o}$C was said to be acceptable for: slicing yield and product safety, we'd very quickly found a low cost solution.


**Seaweed Issue:** Similar techniques were used for a new seaweed processor who'd as part of another project requested advice on controlling condensation inside loose packed sealed bags of dried seaweed during cold storage/transit.