

engineers have to contend with, and the most careful and watchful manipulation of the cooling-system becomes necessary. The higher the temperature of the cheese the longer will be the time before the air of the hold can be reduced to the required temperature, say, 40° to 45° F., or the figure that may be stipulated by shippers, owing to the danger of creating undue condensation, which, settling on the cheese, brings about rapid deterioration in the condition of the cargo. Taking, for instance, a shipment of cheese at an average temperature of, say, 60° to 65° F., it will be some nineteen to twenty-one days before the air in the hold can be reduced with safety to the temperature required.

Under such conditions it will be easily understood that in addition to the deterioration in condition of the cheese the quality is likewise seriously affected, owing to the rapid ripening process and the undesirable development of ill flavours common to high temperatures. At the same time such conditions favour the growth of gas-forming bacteria, which adversely affect the texture of the cheese by causing the formation of gas and other holes or openings of various types, and at the same time bring about a looseness of texture, all of which are most undesirable in cheese of the Cheddar type.

In the stowing of cheese in the holds it is important that there should be no dripping of moisture from the brine-pipes or trays overhead. Personally, I do not recommend the use of overhead grids in the transport of cheese, owing to the danger there is of damaging the cheese that may be carried underneath. It is also important that there should be a clear space of, say, 12 in. between the side grids and timbers, and false bulkheads should be carried from the ceiling to the deck of the hold so that no cheese can be stowed underneath the grids or scuppers, the latter being erected to carry off the moisture from the brine-pipes. In cases where these precautions have not been taken certain quantities are not infrequently landed in a more or less damaged condition. Until quite recently the common practice has been to carry cheese in the 'tween-decks of the vessels, but owing to the great increase in the quantity it has also become necessary to carry it in the lower holds, and results have been, on the whole, fairly satisfactory.

With regard to the temperature in the cheese-holds, I have found by experience that temperatures in different parts of the hold are variable. For instance, taking a cheese-chamber in which the depth of the hold will allow the cheese to be stacked, say, from eight to ten tiers high, I have repeatedly found that the temperatures rise approximately one degree for each tier in the elevation. This I believe to be caused through the lack of efficient power for the complete circulation of air in the holds.

In conclusion, I desire to emphasize that it is just as important to have efficient air-circulation in the cheese-holds on board ship as it is in the cold stores, because efficient air-circulation means uniform temperatures, and also, what is probably as equally important on board ship, the drawing-off of carbon-dioxide gas when heated cargoes have been taken on board.