

"DRY BUTTERFAT" — AND ALL IT MEANS

"COW dust" is U.S. Navy slang for powdered milk. What will they call the "Dry Butterfat" that an Auckland plant is turning out on a £1,000,000 a year scale for tropical troops and the British people? asks A.M.R. in this article for "The Listener."

GUNS before Butter" was the first hint most of us had of any important connection between dairy produce and war. But to-day all know that just as any army marches on its stomach and industry slides on oil, so civilian populations in war require for their continued vitality a sufficient supply of "edible fats." We know why the Axis finds these so expensive to obtain. And we know also some of Britain's difficulties in taking delivery of our butter. But few indeed yet realise how fast events have been hurrying Britons towards "fat starvation" and ourselves into a gigantic glut. Now it can be told, however, for New Zealand brains have by-passed that boggy for good.

The problem has been, on the one hand, that ordinary butter, because it contains a certain amount of moisture and curd, will deteriorate at normal temperature, however carefully made and packed, even if air sealed; and on the other hand the fact that while Kaiser methods can now create ships as fast as war losses and offensive demands withdraw them from the public, refrigerated ships cannot be built at anything like this speed and their availability for civilian supply must continuously decrease as the war's "attack" phase deepens. The problem's solution has been the "Dry Butterfat Production" process, evolved by our Dairy Research Institute, and applied on a million-a-year scale by our Internal Marketing Division.

The situation hit us when Britain, though requesting us to make more cheese, would no longer take the whey butter that is made as a by-product of cheese, and eight months' supply piled up in our stores. Then our refrigerated store space grew uncomfortably cramped from time to time as cold-store ships made one journey too many or became militarily indispensable elsewhere. However, the chemists of Massey College, though without any overseas precedent to help them, tackled the problem and made pioneering progress. Presently Dr. McDowall could announce that they had evolved a process for preserving butter (of any grade) by removing all impurities subject to quick decay.

Since then the Internal Marketing Division has processed up to 42 tons per three-shift day and averaged some £30,000 turnover weekly for the last six months.

The actual process begins with the tipping of bulk butter into a hopper from which a steel screw or worm carries it into a totally-enclosed "melting cylinder," where, under three-quarters pound steam-pressure, it is reduced to a creamy liquid. This is pumped into "separate cylinders" where gravity drains off the water, salt, and curd, and lets the fat flow over the top (the escaping water etc. is itself reprocessed,

so that altogether only 1% of fat is lost). A series of 1,100 gallon separators and pasteurisers now progressively clarifies the fat to an easy-flowing, clear, light-amber serum. Finally, dried under 29in. of vacuum in a "dehydrator" with a surrounding steam-jacket, and cooled in a specially-designed "rotary cooler," it pours into the waiting line of tins. As each tin nears its four-gallon capacity its own weight neatly closes the tap, an attendant tops it off to the exact amount, a clamp ejects every particle of air by constricting the sides, and a second attendant lead-seals. Deftly cased and wired it slides out to the waiting ships.

Arrived in Britain this dry butterfat may be stored almost indefinitely anywhere, or used as it stands for baking, cooking, or ice-cream and confectionery manufacture, may be blended to make high-class margarine, or reconstituted back into butter. So everyone is satisfied — except Hitler: the British people, because they get their necessary "fats" in safe and palatable perfection; the Pacific troops, likewise, because they are garrisoning or fighting in places where ordinary butter could never reach them (let alone keep), in edible condition; and the New Zealand producer, public and Government because the prospect of an enormous glut and a curtailed income has lost many of its terrors.

SIMPLE STORIES IT REALLY HAPPENED

HE was standing on the Wellington Railway Station awaiting the arrival of the express from Auckland—a captain of the U.S. Army.

The workers' trains were discharging their loads of men and women hurrying to their jobs in the city—to factories and workshops all bent on turning out war materials, clothing, food-stuffs, to bring the day of victory nearer.

Quickly and quietly out of the throng came a Maori woman and touched the officer on the arm.

"I beg your pardon," she said hesitatingly, and he saw that there were tears in her eyes.

Obviously she was distressed, and as the captain started to ask what he might do to help, she quickly pressed a small piece of paper in his hand.

"For American Air Force," she said through her tears—and was gone again into the crowd.

Surprised and wondering what favour a Maori woman in New Zealand could be asking of the American Air Force, the captain looked at the note. It was a five pound note!

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