Cabbages and Girls

Millions of Vegetables From Farm to Front Line

BEFORE this war New Zealand exported no vegetables to speak of. To-day a quarter of what we grow goes overseas. An article in "The Listener" last May reported how some of these extra 177 million pounds of green and yellow foods are produced. In this issue our reporter tells what happens when they reach the main packing plant.

ONCE New Zealand farmers home-killed and salted the small amount of meat we sent overseas. Then came refrigeration, leading to mass slaughtering and packing, and millions of carcases left our shores every year. Once our country housewives set the milk to stand in wide pans overnight, skimmed it in the morning and sent the cream off with George in the dray. Then came cream separators and almost at once production, manufacture, and export became highly mechanised, mass-scale activities. Has a similar revolution in vegetable marketing begun? You would ask that question, if, like me, you had visited the seven acres of I.M.D. factory at Pukekohe where vegetables for our own and Allied Pacific troops are fresh-packed, dehydrated, canned, quick-frozen, and shipped.

It was 18 months since I had passed through Pukekohe. Then a long green paddock had stretched beside the railway line and only one man, just returned to Auckland from investigations in the United States, knew what "dehydration" and "quick-freeze" meant in terms of blue-prints and specifications. One year later his factory was working. There it smokes to-day beside the railway, a single roof one-sixth of a mile long with lorries from "the Hill" dumping produce in on one side and wagons from the Auckland wharves streaming away along the other, packed tight with cases, cartons, and cans.

"What We Can't We Can"

"There'll be seven or eight lorries of peas come in this next hour—if we're lucky," said a man who was already at work, though it was only six in the morning. He moved the lever of his weighbridge and I saw it could rise to 20 tons. "Not peas in shell," he explained. "The farmers pull a whole paddock of pea-vines, pods, stalks, roots and all by just running their lorry up and down it with an attachment on the back that loads it automatically. Then we fork the whole caboodle into our vining machines and presently out roll the peas at the other end."

It sounded too much like the fabulous Chicago machine to be possible—where pigs trot in one end as pigs and file out the other end as sausages. But later in the day I saw it happen. Three "super-concrete-mixers" were set revolving. Vines were fed into their hoppers at the rate of one acre per hour. From underneath individual peas came dribbling, then pouring. They bounded on to a cross-esculator, climbed a ladder on the dredge-bucket principle, trickled down again through griddles and cleaning blasts of air and finally presented themselves by cratefuls before a "tenderometer." Human hands had to intervene here to place samples in this "pea-pressure-gauge" and record what I believe should technically be called their co-efficient of compression. "If they're 'so' fresh," explained the attendant, pointing to "pass marks" on the dial, "they go down *this* line to be quick-frozen. But if they are any older and harder they must go down *that* line to be canned. You see—what we can we quick-freeze and what we can't we can."

The two "lines" stretched parallel down the factory, each a fast-running flume of green peas. But one ended in a row of outsize saucepans set in the floor and furiously boiling and the other in what looked a mere expansion of a home refrigerator but which froze, I was told, 25 degrees below zero. "Incidentally," said the engineer, "those vats are not 'boiling' our cans. It is our cans that are boiling the water.

Girl-power and Machine-power

Apart from this engineer and a Maori perched among hot cauldrons near the ceiling both processes seemed to run themselves wholly by machinery and girl-power. Actual arrival, filling, sealing, and despatch of the cans was entirely automatic. But a girl fed the belt of "empties" from a stack of them by swinging over ten at a time on the teeth of a hayrake. And the entering peas passed along a table under the eyes of a party who deftly picked out any crushed or blackened ones.

The quick-freeze line seemed simpler, but more mysterious. Girls just packed the fresh green peas into little one-pound cartons, sealed their cellophane covering by pushing it over an electric plate and passed the pile on to be placed between the trays of the refrigerating chest. "Why all this individual packaging?" I asked the engineer. "Isn't the war still on?" "That's why we're here," he retorted. "And thin flat packets are the essence of the whole process." The object of quick-freezing, he explained non-technically, is to prevent the drop of moisture that is in every cell of food from becoming an ice-crystal and so piercing the walls of the cell—as happens in ordinary refrigeration. "For when the cell-walls are broken the food starts 'mushing' once it is taken out of cold conditions. But quick-frozen packets are cell-whole. They reach your table actually fresher than the vegetables you buy at the shop. You'll know all about it after the war when shop and home refrigerators start rolling off the assembly lines instead of tanks."

He opened the chest front. The "trays" I saw were thick slabs of aluminium. Flat packets laid tightly between them under slight pressure would freeze right through, from top and from bottom,

"A most ingenious contrivance of belts" brings the vegetables to the girls and takes them away when topped and scraped

It's popularly called a "dehydration factory," but more than 85 per cent of the vegetables handled go overseas fresh—like the cabbages in this picture.