

## FLESH-COLLAPSE IN STURMER APPLES.

### COOL-STORAGE EXPERIMENTS, 1927.

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AMONG the fruit-storage problems presented from various parts of New Zealand is a trouble occurring in Sturmer Pippins and certain other apple varieties. Here and abroad it is recognized as a functional disease—one liable to occasion much damage to the stored fruit. Here it is more prevalent in certain lines and stores, and is commonly diagnosed as flesh-collapse or internal breakdown. The study of the disease commenced in Nelson in 1920, and last year was pursued in Hawke's Bay and Auckland, using fruit from three selected orchards. These orchards represented a group, the Sturmers from which—in certain stores—had previously developed flesh-collapse abundantly. The three lines were studied in six different cool stores under usual and under modified commercial conditions. While this procedure has special merits, it may not make for the same scientific accuracy and proof as that obtainable in a laboratory equipped for fundamental research, with smaller quantities at stake and with more precisely controlled and recorded conditions.

#### INFLUENCE OF DIFFERENT STORAGE CONDITIONS.

Last year's work showed how one set of storage conditions compared with another may influence the onset and intensity of flesh-collapse. In three of the stores traces of the disease were found as early as August—that is, after four months' storage. In the three unaffected stores, moreover, there was still no appearance of flesh-collapse in October—after six months' storage. The position is set out in the following table:—

Table 1.—Comparison of the Three Experimental Lines in respect to Damage suffered from Flesh-collapse after Six Months' Storage.

Store.	Line.	Number of Apples examined.	Unaffected.	Intensity of Flesh-collapse.				Total damaged.
				Barely damaged.	Slightly damaged.	Badly damaged.	Very badly damaged.	
F ..	RX	50	100	..	..	..	..	..
	RB	51	100	..	..	..	..	..
E ..	BX	100	100	..	..	..	..	..
B ..	RX	100	49	31	12	7	1	51
	BX	100	90	10	..	..	..	10
	RB	100	90	7	2	1	..	10
C ..	RX	108	100	..	..	..	..	..
	BX	126	100	..	..	..	..	..
	RB	100	100	..	..	..	..	..
A ..	RX	100	97	3	..	..	..	3
	BX	100	95	5	..	..	..	5
	RB	100	99	1	..	..	..	1
D ..	RX	0	..	..	..	..	..	..
	RB	0	..	..	..	..	..	..