Germination was minimal at low temperatures whatever the pressure, but at high pressures germination occurred at temperatures well above those that supported germination at 1 atm. pressure (e.g. at 60° and 70°).

In general, those spores most dormant towards nutrient germinants at 1 atm. were

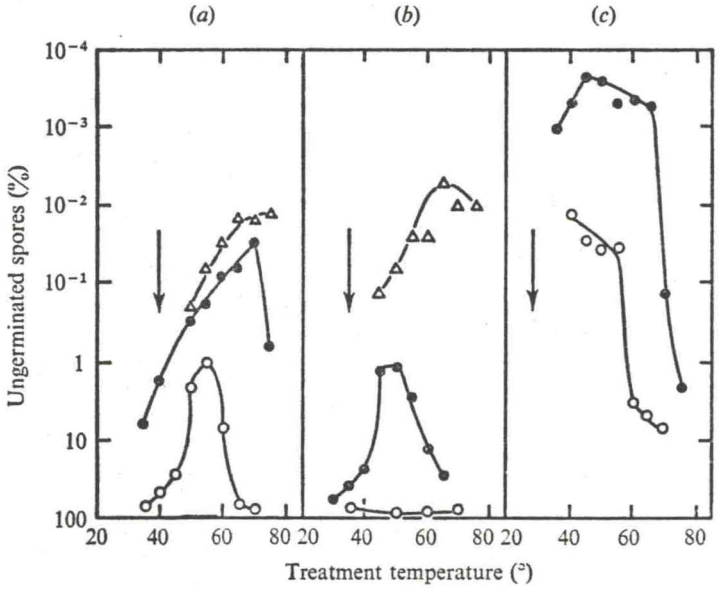

Fig. 1. Pressure germination at different temperatures. Spores of *Bacillus coagulans* (*a*), *B. subtilis* var. *niger* (syn. *globigii*) (*b*) and *B. cereus* T (*c*) were heat activated at 70° for 30 min., then suspended in 0·1 M-sodium phosphate (pH 8·0) and subjected to pressures of 250 atm. (○), 500 atm. (●) and 1000 atm. (△) for 30 min. periods. The germination was measured by heating samples (70°, 30 min.) to kill germinated forms and estimating the numbers of ungerminated survivors by viable counting. The vertical arrows indicate the temperature optima for germination of these spores by L-alanine at 1 atm. pressure.

Table 1. *Increase in pressure germination of heat-activated spores*

Organism	Pressure (atm.)	Time (min.)	Germination (%)* Unactivated spores	Germination (%)* Activated† spores
Bacillus cereus T	250	30	60	95
	500	5	—	10
		15	—	50
		30	75	99
	1000	0·25	20	40
		30	>99	>99
B. subtilis MARBURG	250	30	30	60
B. brevis	250	30	0	99
B. coagulans	1000	30	20	80
B. subtilis var. *niger* (syn. *globigii*)	1000	30	60	90
B. pumilis S3	1000	30	80	>99

* Incubation temperature was 25°. Spores were suspended in 0·1 M-sodium phosphate (pH 8·0). Germination was estimated by counting the percentage of phase-dark spores: incubated but not pressurized controls were all less than 5% phase-dark.

† Activation was at 70° for 30 min.