relations will probably play an important part in further investigations.

A detailed account of these studies on flax, and on other organisms, will appear in due course. This work was aided by a grant from the Agricultural Research Council.

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'Purple Pericarp' : a Monofactorial Dominant in Tetraploid Wheats

A NUMBER of varieties of tetraploid wheats originating from Abyssinia have purple- or violet-coloured grains, due to the presence of an anthocyanin in the cells of the pericarp. As part of a programme of hybridizations undertaken for the production of tester stocks carrying useful marker genes, a white-grained eligulate variety of *Triticum durum* Desf. (from Cyprus) was crossed with a purple grained variety from Abyssinia, *T. durum* var. *arraseita* Hochst. (=*T. dicoccum* var. *arraseita* Perc.). Although the F_2 family raised was only small, it is felt that the results should be put on record because they indicate that the purple pericarp colour is inherited as a simple monofactorial dominant.

The F_1 plants, when allowed to mature normally (Table 1), bore purple grains like the male parent. Of 44 F_2 plants harvested, the ears of 28 bore purple grains, 12 ears had non-coloured grains and 4 could not be classified owing to discoloration, immaturity, etc., of their grains.

Table 1

Grains	Observed (*O*)	Calculated (*C*)	Deviation (*O* − *C*)	$\frac{(O-C)^2}{C}$
Purple	28	30	− 2	0·13
Non-coloured	12	10	+ 2	0·40
Total	40	40	0	0·53

With $\chi^2 = 0{\cdot}53$, for 1 degree of freedom, $P = 0{\cdot}5$–$0{\cdot}3$, showing a good agreement with a 3 : 1 ratio.

The only relevant report in the literature appears to be that of Caporn[1], who studied the progeny of a cross *T. polonicum* × *T. durum* var. *arraseita* ('*T. eloboni*') made by Biffen. In this case the F_2 consisted of 28 plants with fully purple grains, 8 with the colour restricted to longitudinal streaks and 136 with non-coloured grains. In the F_3, some of the non-coloured grained plants gave streaked grained plants and non-coloured grained ones.

Although Caporn's puzzling results may perhaps be due to the introduction of additional factors affecting pericarp colour from the *T. polonicum* parent, it is felt much more likely that the streaked and impure non-coloured grained plants resulted from a shading effect of the closely investing long glumes caused by the *polonicum* gene or genes. In support of this possibility, it should be mentioned that although the ears of the F_1 plants of the present cross normally bear purple grains as noted above, it was observed that if the ears are enclosed in black paper while maturing, only non-coloured grains are produced.

Hence, in the light of the results now presented, and despite the observations of Caporn, it is suggested that the purple pericarp colour occurring in Abyssinian tetraploid wheats is inherited as a monofactorial dominant character.

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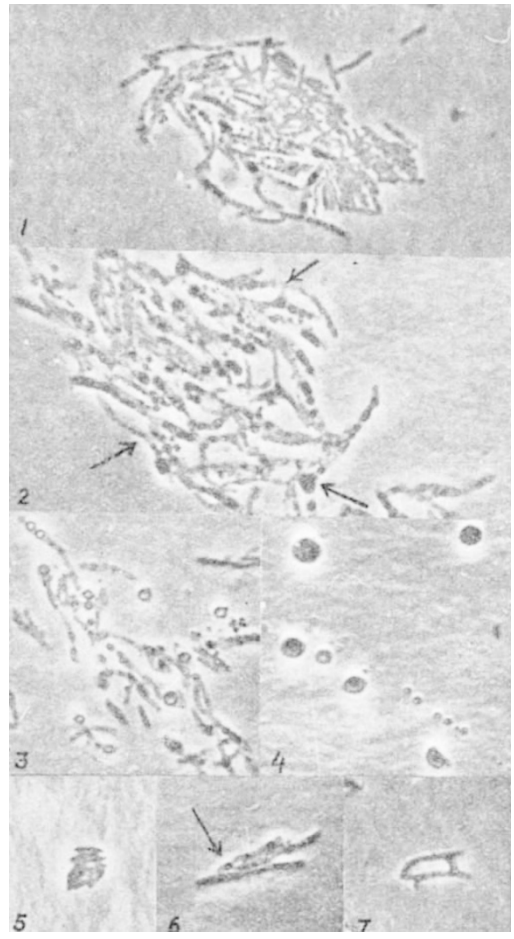
[1] Caporn, A. St. C., *J. Gen.*, **7**, 259 (1918).

Atypical Forms of Tubercle Bacilli (Strain *B.C.G.*)

ATYPICAL forms (granules, globules, spore-like bodies) of *M. tuberculosis* have been observed by many investigators since Koch's time[1-9]. In the present investigation the *B.C.G.* strain of *M. tuberculosis* grown on 'Tween'–agar blocks was studied by means of the light- and phase-contrast microscope.

Many of the bacilli multiplied by simple transverse fission. Some, however, branched into filaments. Granules appeared in these forms : in some instances a sufficient number of granules appeared to fill the entire rod (Fig. 1). The granules increased in size. Some which measured 0·2μ in diameter when first seen were 1–3μ or more in diameter (Fig. 2). Other



Figs. 1–7. Phase-contrast photographs. (× 1,400)