were converted to erythrocytes (Tables 1 and 2). Of the former, the number of cells converted was greatest after one day of cultivation; of the latter, the greatest number of cells converted occurred after 3 and 5 days of culture. These findings indicate that the process of erythroid maturation was longer in the thymus than in the spleen.

The reasons for the marked variations are not apparent at the present time. They may merely indicate that, although the mice belonged to a highly inbred strain, environmental conditions resulted in a different requirement for erythropoiesis in each mouse in reticuloendothelial sites other than the bone marrow. Alternatively, red blood cell formation may be a rhythmic process and the variations may result from the fact that erythropoiesis in the spleen and thymus of each mouse was at different stages of such a cycle at the time they were killed. These possibilities are at present under investigation.

The data suggest several conclusions. First, it is apparent that differentiation of nucleated red blood cells from spleen and thymus can occur during *in vivo* culture in diffusion chambers. Secondly, erythropoiesis in reticuloendothelial sites other than bone marrow normally is a common occurrence in healthy young adult male mice and may be quite extensive since as many as 62 per cent of the spleen cells were found to have an erythropoietic function. Inasmuch as bone marrows from comparable mice were normal, the possibility that the presence of nucleated red blood cells in the spleen and thymus is due to extramedullary hematopoiesis can be excluded. Thirdly, the thymus is an important site of erythropoiesis since as many as 18 per cent of its cells may have this function. This finding is in agreement with previous observations[4]. Fourthly, maturation of erythrocytes appears to differ in the thymus and the spleen. Fifthly, many of the cells in these organs, especially in the thymus, have been erroneously identified, in the past, as lymphocytes.

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ENTOMOLOGY

Intersterility as a Consequence of Insecticide Selections in *Tetranychus urticae* Koch (Acari : Tetranychidae)

In July 1961 specimens from a wild colony of *Tetranychus urticae* were gathered from *Sambucus nigra* L. in dunes in the Netherlands and cultivated on beans (*Phaseolus vulgaris* L.) in the laboratory. This colony (*S*) proved to be very susceptible to the ovo-larvicide 'Tedion' (2,4,5,4′-tetrachloro-diphenylsulphone—LD_{50}, 1·410 p.p.m.).

In 1961, a series of selections on a representative sample of this colony with the compound 'Tedion' resulted in a strain R_1, highly resistant to 'Tedion'. Three years later a second series of selections was performed, also obtained from the original colony, and a resistant strain R_2 was acquired.

A genetic analysis of resistance to 'Tedion' could not be executed, since an unexpected intersterility existed between the *S*- and *R*-strains[1]. In Table 1 the percentages of sterile eggs in the F_1 and F_2 progeny are given for all combinations of crosses.

As *T. urticae* has a generative parthenogenesis[2], I was able to establish the sterility of the haploid eggs in the F_2 separately by starting from unmated F_1-females. The opposite, a purely diploid progeny, cannot be obtained, as the mated females always gave a mixture of diploid and haploid eggs.

Table 1. Percentage of Sterile Eggs of Several Combinations of Crosses between Resistant Strains (R_1 and R_2) and the Wild Colony (*S*)

Mass crossing ♀×♂	F_1 diploid and haploid Eggs	F_1 diploid and haploid Sterility (%)	F_2 diploid and haploid Eggs	F_2 diploid and haploid Sterility (%)	F_2 haploid Eggs	F_2 haploid Sterility (%)
$S \times S$	559	6	453	7	311	6
$R_1 \times S$	390	7	566	26	516	31
$S \times R_1$	772	12	309	40	559	61
$R_1 \times R_1$	493	2	412	8	547	8
$R_2 \times S$	716	2	431	19	657	33
$S \times R_2$	685	8	324	28	648	62
$R_2 \times R_2$	282	3	706	4	656	5
$R_1 \times R_2$	267	3	—	—	162	6
$R_2 \times R_1$	282	3	—	—	187	1

The outstanding fact that arises from these observations is that selection with an insecticide has resulted in an appreciable genetic blockade. The intersterility factors accompany on both occasions the build-up of resistance in strains R_1 and R_2. The specificity of the intersterility is underlined by the lack of sterile eggs in the mutual crosses of R_1 with R_2.

The phenomenon of a decreased genetic affinity following the application of an insecticide has not, so far as I know, been reported before. It is interesting from the point of view of theories of evolution and also because it has consequences in the practical control of spider-mites.

A further analysis of 'Tedion' resistance and intersterility is being undertaken.

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MICROBIOLOGY

Stabilization of Autolysis in *Bacillus cereus* T

During investigations of the tricarboxylic acid cycle in intact, resting vegetative cells of *Bacillus cereus* T suspended in phosphate buffer, spontaneous autolysis was observed similar to that reported by Kronish *et al.*[1] in 0·05 M *tris* (hydroxymethyl)-aminomethane (*tris*) buffer, *p*H 7·5. Further examination of intact, resting cells was precluded unless the cells could be stabilized, remaining metabolically active for the required duration, usually 2–4 h, and preferably in the absence of agents such as sucrose or polyethylene glycol 4000 (ref. 1).

Since analysis in a marine pseudomonad can be prevented or reduced by several cations, principally Mg^{++} (refs. 2 and 3), a similar situation might prevail in *B. cereus* T, and consequently the effect of Mg^{++} on autolysis in this organism was investigated.

B. cereus T was grown in 'Trypticase Soy Broth' (Baltimore Biological Laboratory) from a suspension of germinated spores[4] for 4 h at 30° C. Cells at the filamentous stage of development[5] were collected by centri-