Stock number	Fertile males		Sterile males		
	y	w^e	y	w^e	y w^e
No. 6	3	1	6	8	-
No. 15	4	4	5	2	-
No. 7	4	5	7	5	1
No. 19	-	11	6	4	-
No. 20	5	8	7	9	1
No. 18	3	7	9	5	-
No. 23	1	6	6	2	-
No. 21	3	1	7	1	-
No. 4	1	4	10	5	-
No. 8	3	6	5	3	-
No. 13	3	17	20	2	-
No. 22	3	6	4	4	-
No. 2	-	11	7	-	-

The above data allow us to conclude that under the influence of X-rays sterility mutations scattered along the whole length of the X-chromosome may arise.

Spencer, W. P. Life history and control of laboratory mites. See DIS-6:67-68. The following observations on the life history of the parasitic laboratory mite are of interest in connection with the problem of control. On Sept. 16 one D. repleta carrying a single individual of the parasitic mite was placed in a shell vial with banana agar culture medium. By Sept. 24 the mite, fully grown, was crawling in the culture medium. By Sept. 25 a number of young mites were seen in the culture thus indicating that the mite reproduces parthenogeneically (mating of the immature parasitic stage has never been observed and probably does not occur). On Sept. 26 there were about 100 young mites in the culture vial. These moved rather rapidly over the surface of the culture medium or slowly if the legs became immersed in it. There was no tendency for these mites to wander far from the surface of the culture up the sides of the vial. On Sept. 27 these mites had grown to a size larger than the migratory stage and one pair was observed mating. On Sept. 28 several mating pairs were present and a single specimen of the migratory stage was seen. These observations indicate a life cycle in which parthenogenesis produces both males and females. Thus a culture or a laboratory may become infected from a single mite of the immature migratory or parasitic stage.

Sources of infection. A laboratory entirely free of parasitic mites may become infected from the following sources:

(a) Cultures received from other laboratories. Often only a few mites will be present in such cultures when first received and will not be detected. Always assume that they are present.

(b) Wild flies. Among 1232 flies taken in traps in Pasadena and several nearby points in October, November, and December 1936 five mite-infested flies were found. The collections included 13 species and mites were found on individuals of simulans, pseudo-obscura, and an undescribed species related to hydei. Also in a collection of perhaps 150 hydei 1 mite-infested fly was found. Unless wild flies are being collected in large numbers this source of infection is not as important as (a).

(c) Other insects. I have twice taken wild specimens of Eucoila, (a parasitoid wasp which preys on Drosophila) which were mite-infested.

Methods of control. Follow points outlined fully in DIS-6:67-68. The following points should be particularly emphasized. (a) Watch for all stages of the mite as a routine when examing cultures. (b) During infestations keep all cultures in Lysol solution 1:200. (c) Repeatedly clean table tops, all instruments including etherizer, and incubator shelves. (d) Heat is the surest method of killing all stages of the mite in discarded cultures, and it is also the most economical. (e) Rapid transfer of stocks. (f) Use of very tight cotton plugs following Gowen's suggestion (DIS-6:69).

Technical Notes

Altenburg, E. Stocks. Most stocks can be kept in vials for 1-2 months without transfer at a temperature of 18°-20° C. (Vestigial, however, becomes sterile at a low temperature). This is an economical method of keeping stocks, particularly stocks that are not greatly in demand. It is also a good way to keep stocks in duplicate, or during periods of protracted absence of the investigator, as during vacation time.

Demerec, M. Control of mites. As a preventive measure against the spread of mites we are keeping our culture bottles in galvanized iron pans made to fit our shelves. These pans were originally filled with a weak cresote solution which was, because of its odor and fast sedimentation, later substituted by a strong soap solution. The object of the solution is to prevent the spread of mites from one culture into another and thus eliminate the source of the infection. Soap solution, however, was found inadequate for mite control. After investigating several possibilities it has been found that light oil is a good medium for this purpose. Upon request, The Standard Oil Co. of New York supplied samples of light oils, non-volative, non-inflammable, and odorless, out of which the type called Mineral Seal Oil was selected. It has been in use since October 1936, with very satisfactory results. This oil costs 35 cents per gallon in 5 gallon lots, or 17 cents per gallon in barrel lots. To cover bottoms of seventy 12x36x2 inch pans about 30 gallons of oil were used.