The same protocol was followed with the wmei-41^{D5} strain. Thirteen 1-2 day old females were mated for two days with same-aged wmei males, each mated pair housed separately. The next day individually housed females were "frozen" at -11±1°C for 20 min along with 368 2-4 day old wmei males and females. After one hour at room temperature, 94.2% (359/381) of the flies recovered. Wmei females were then mated with same aged (3-4 day old) Sevelen males for 7 days.

The paternity of female offspring produced by post-freeze matings was ascertained by scoring eye color, with 100% red-eyed daughters indicating complete desemination.

Table 3. Summary data on fertility and desemination effects of exposure to -11±1C for 20 minutes, wmei-41^{D5} strain.

pre-treatment	day 1 post-treatment	day 2 post-treatment	day 3 post-treatment	day 4 post-treatment	day 5 post-treatment	day 6 post-treatment	day 7 post-treatment
# pairs:							
13	13	13	13	13	13	13	13
fertility ($\bar{X}$±s.d.):							
7.62±10.29	11.62±13.82	14.23±10.85	15.69±8.81	16.92±9.66	11.69±10.98	9.69±9.07	16.00±13.90
% ♀offspring sired by 2nd ♂ (N):							
	14.1% (12/85)	88.3% (83/94)	99.0% (96/97)	100% (95/95)	100% (70/70)	100% (62/62)	100% (106/106)
# fertile pairs with 100% ♀offspring sired by 2nd ♂(%):							
	1(10%)	8(67%)	11(92%)	12(100%)	11(100%)	11(100%)	12(100%)

As Table 3 demonstrates, 100% of the female offspring are sired by the second (i.e., Sevelen) male beginning with the fourth day post-freezing. The more rapid desemination of the wmei strain as opposed to the Sevelen strain (4 vs 6 days post-freezing) may be related to the reduced DNA repair capacity of the former (Boyd & Setlow 1976, Genetics 84:596-26). Moreover, fertility is not reduced after exposing wmei females to low temperature (Table 3), unlike the situation with Sevelens (Table 1).

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Mazar-Barnett, B. & E.R. Munoz. Comision Nacional de Energia Atomica, Buenos Aires, Argentina. Dominant lethal tests with nipagin in Drosophila melanogaster.

A certain decrease in egg hatchability has been observed both in Drosophila melanogaster and Dacus olea cultures when nipagin (p-hydroxybenzoic acid methyl ester) is added to the food as fungicide. Since this drug is of current use, an investigation was started to study its action on the developing germ cells of D. melanogaster as a contribution to establishing the causes of the observed increase in embryonic lethality.

We report here preliminary results of dominant lethal tests performed to determine the effect of nipagin administered by injection (thus circumscribing the analysis to its direct effect on the male and female germinal cell lines) in motile sperm and mature oocytes.

	Unhatched/ total eggs	% embryonic death
controls	81/642	10.39
treated ♂♂ x untreated ♀♀	67/645	10.39
treated ♀♀ x untreated ♂♂	69/525	13.14

The flies were raised in acid medium, without nipagin and treated when 7 days old. To study the effect on motile sperm, Samarkand males were injected intraabdominally with nipagin at a concentration of 1.67% in NaCl 0.4%. The treated males were then pair mated with untreated cn bw, e females in empty vials. After one observed mating the males were discarded and the females transferred to oviposition chambers (Munoz & Mazar 1978) for two 24 h periods. The eggs were counted and the

unhatched eggs scored after 24 h and again after an additional day to ensure the detection of late hatching.

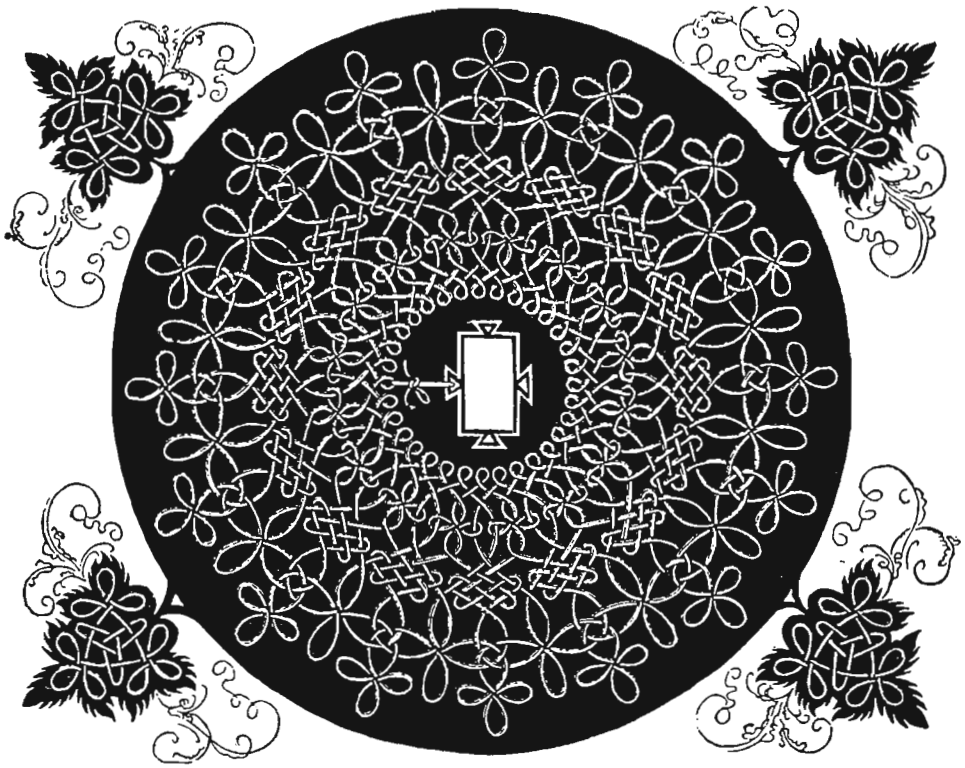
The experiments were carried out at 25°C. All cultures with 100% of unhatched eggs were discarded.

The same experimental procedure was followed when studying the effect on oocytes, except that in this case cn bw, e females were injected and mated with untreated Samarkand males.

The results thus far obtained are shown in the table and suggest that the embryonic death observed in the cultures when nipagin is used does not depend on a direct action exerted by the fungicide on Drosophila germinal cells mature at the time of treatment.

Since there was no difference between 1st and 2nd oviposition periods the data were pooled.

References: Munoz, E.R. & B. Mazar-Barnett 1978, Mutation Res. 51:37-44.



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On the effect of ethyl methane-sulphonate and chloroquine phosphate on fertility and longevity in D.melanogaster.

Thirty-five to forty virgin D.melanogaster females carrying the genetic markers dumpy (dp) black (b) cinnabar (cn) were mated with wild type (Oregon-K) males for 1-2 days at 25°C. Inseminated females were starved for 2 to 3 hours and then allowed to lay eggs on standard food medium for 2 hours. At 25°C, larval life of D.melanogaster is of 96 hours duration. For sake of treatment the larval period was divided into three equal periods. LD_{50} concentrations of ethyl methanesulphonate (EMS) and chlorquine phosphate (CHQ), determined earlier by us, were given to the developing larvae. Thus the F_1 larvae were reared on food mixed with 0.90 percent EMS in the first 32 hours and with 0.75 percent EMS in the second and third 32 hours of larval life. In other experiments