Plaine, H. L. and Sister M. Baptista Aubele. Ohio State University. Occurence of the erupt effect in the Su-er tu bw; er^+ $Su\text{-}tu^+$ strain of D. melanogaster.

Three series of eggs and larvae of the Su-er tu bw; er^+ $Su\text{-}tu^+$ strain were collected over a twenty-four hour period on the surface of corn-meal-dextrose media and exposed to X-irradiation at ±12 hours of age. The disks of media containing irradiated eggs and larvae were placed on the surface of the same type of media in standard size milk bottles and incubated at 25±1°C. Eyes of adult flies were scored upon emergence as extreme erupt, weak erupt, or normal.

Irradiation was carried out with a Norelco MG 150/10 industrial X-ray unit having a 2.5 mm beryllium window and a maximum output of 150 kv. The delivered dose in air for all series was 1000 r (±5%) at 140 kv, 5 ma, distance 36 cm. Series 1 and 2 received 108-116r/min. with additional filtration of 0.019 mm aluminum, while series 3 was irradiated inside a lucite chamber with no additional filtration at a dose rate of 37-39 r/min.

Evidence of the phenotype characteristic of extreme erupt was found consistently in all of the irradiated series (Table 1), while all series subjected to X-irradiation differed significantly from the non-irradiated controls of the same strain. Further studies as to the nature of this erupt response are in progress.

Table 1: The erupt eye effect in irradiated and non-irradiated series of the Su-er tu bw; er^+ $Su\text{-}tu^+$ strain.

Treatment		Total	Phenotype of eyes (%) Normal	Extreme erupt	Total erupt
X-irradiated 1000 r	series 1	1027	74.6	5.4	25.4
	series 2	594	74.1	5.2	25.9
	series 3	1087	75.8	6.2	24.2
non-irradiated controls		1511	99.7	0	0.3

Taira, T. National Institute of Genetics. Japan. Soluble nucleotides in Drosophila.*

An attempt was made to make a map of soluble nucleotides more complete /nucleotide composition as a function of stage of development/. Among many analytical techniques previously tested, the following combination technique was found to be best: hot 50% alcohol for an extraction, charcoal as an adsorbant for fractionation and paper chromatography and electrophoresis for separation and identification. The treatment with a charcoal adsorbant was done in the cold. A final quantity of nucleotides of at least 0.1 micromoles is required for a clear identification.

In the course of development of Oregon-R, the total relative amounts of nucleotides per dry weight in larvae, pupae and adults are given as 293, 39 and 336 respectively. For convenience the total density units of total extracts at each stage of development is expressed as: $(E_{260} - E_{310})$ x (total volume) /E=extinction/ as being equal to the relative total quantity of nucleotides. As for the individual nucleotides, uridine diphosphate acetyl-glucosamine is detected in pupae and adults, but not in larvae. Oligonucleotides are found at stages from larvae to mid-pupae, but not in adults. Nucleosides, such as uridine and inosine, are detectable in larger amounts in larvae than in adults, but are not found in pupae. Soluble nucleotides in larvae are scarcely detectable. Therefore, it is clear that the value 293 in larvae is represented mostly by non-nucleotide substances, namely the nucleosides described above and other /nucleosides/ in small quantities. On the contrary, in adults soluble nucleotides represent the majority of the value 336. These results suggest: (1) soluble nucleotides in Drosophila begin to appear in pupae but are not found in larvae, and (2) the correlation between the appearance of uridine diphosphate acetyl glucosamine and the disappearance of oligonucleotides in pupae may be very close to cell differentiation of adult organs. In the near future these data and those of typical mutant strains of Drosophila will be published as a map of soluble nucleotides.

*Editing was required to make this paper more readable in English.