mice, whole-body irradiation of 150 r, unlike the presence of a tumor, does not cause a decreased localization of fluorene-2,7-di-(sulfonamido-2-naphthalene)-S^{35} in the liver and spleen. Where a significant difference in the localization of this radioactive compound between irradiated and nonirradiated animals is noted (blood cells and thymus), it is found only for male mice.

Summary. 1. Male and female Wistar rats and CAF_1/Jax mice show a reduction in weight of thymus and spleen 48 hours following whole-body irradiation of 150 r. 2. Unlike presence of a tumor in animal body, this irradiation dose does not affect uptake of fluorene-2,7-di-(sulfonamido-2-naphthalene) - S^{35} by liver and spleen. 3. Significantly different localization of the S^{35}-labeled compound is found in blood cells and thymus of irradiated as compared to nonirradiated male mice.

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Frequency of Spontaneous Fragmentation of Ova In Unbred Gilts. (25422)

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Attempts to induce cleavage of unfertilized mammalian ova by physical or chemical means indicated that segmentation or fragmentation can be induced in a high proportion of ova of most species(1). Pincus(2) reviewed the subject of activation of unfertilized ova and Beatty(3) reviewed work on certain spontaneous abnormalities of ova. Evidence has recently been presented indicating a high rate of spontaneous activation in hamster ova (4). The occurrence of fragmented ova in unbred gilts has been noted by Spalding *et al.* (5), Hancock(6) and others but no data have been presented on the relationship between post-ovulatory age of ova and the proportion of ova that were fragmented, nor on frequency and extent of fragmentation.

Materials and methods. This study was made on a group of 31 uniform, unbred gilts killed at various intervals after first or second postpuberal estrus. Estrus was detected by observing behavior of the gilts, and in some cases by observing willingness to "stand" for a teaser boar. Duration of estrus in gilts is 24-48 hours and ovulation normally occurs 30-40 hours after onset of estrus. The ova remain in the oviduct 3 and occasionally 4 days after ovulation. Following slaughter each oviduct and uterine horn was flushed separately with physiological saline solution. The perfusate was examined for the presence of ova with a stereoscopic binocular microscope. Ova were isolated and further examination was made under higher magnification.

Results. Assuming that the number of ovulation points should equal the number of eggs shed, 71% of ova were recovered. An average of 14.7 ovulation points were found/gilt.

Only one ovum of 93 recovered from ovi-

TABLE I. Recovery Site and Frequency of Fragmented Ova in Unbred Gilts.

Estrus to slaughter (days)	No. of gilts	No. of ova			
		Recovered	Oviduct	*In utero*	Fragmented
2	4	41	41	0	1
3	1	9	9	0	0
4	6	62	30	32	23
5	6	79	13	66	46
6	4	45	0	45	39
7	7	65	0	65	57
8	1	12	0	12	12
10	2	10	0	10	10
Total		323	93	230	188

ducts was fragmented. In contrast, 80% of 230 ova recovered from uterine horns were undergoing an orderly degenerative fragmentation (Table I). The proportion of fragmenting ova is positively correlated with post-ovulatory age of ova and it appears that most unfertilized swine ova eventually fragment.

Non-fragmented ova recovered 6 or more days post-estrus were usually cytolyzed. This indicates that at least some ova may degenerate completely without fragmenting.

Fragmented ova usually contained 2-16 fragments and sometimes more (Fig. 1). Ova containing 8-16 fragments of equal size often strikingly resembled normally-cleaving fertilized ova. In many cases ova recovered at 8 and 10 days after estrus resembled shrunken blastocysts.

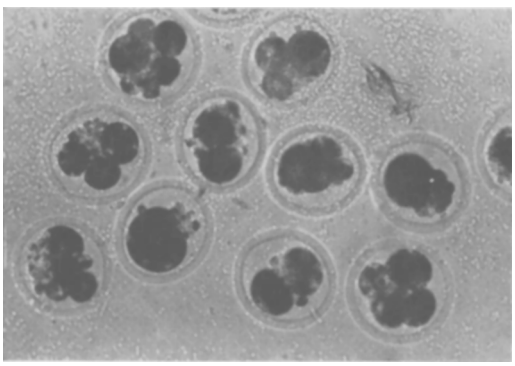

FIG. 1. Fragmented ova recovered from uterus of an unbred gilt 5 days after estrus.

A study of unfertilized pig ova is different from studies on ova of species with comparatively short estrous cycles, in that it is possible to recover unfertilized ova a longer time after ovulation without interference of subsequent estrus and ovulation. This may account for part of the higher rate of spontaneous fragmentation observed in pig ova as compared to ova of most animals with shorter estrous cycles(4). Normal mechanisms for degeneration of unfertilized ova which are inherent in the species may also be responsible for the high fragmentation rate in pig ova.

Because spontaneously fragmented ova, which in some instances resemble normally cleaved ova, are found in a large proportion of gilts and constitute a high proportion of recovered ova, special caution is needed in evaluating ova following *in vitro* manipulations or ova recovered from females following a presumably fertile mating.

Summary. Unfertilized ova were recovered from the reproductive tracts of 31 gilts, 2-10 days after estrus. Examination of the ova revealed that 80% of ova recovered from uterine horns were fragmented. The proportion of fragmented ova increased directly with post-ovulatory age of the ova.

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