polyembryony in *Corchorus* without, however, any cytological analysis of the twin seedlings.

From a selection of X-ray-irradiated progenies of 70,000 r. treatment of the X_3 generation of *Corchorus olitorius* (*JRO*–632) in 1960, seven variants were found from a culture of healthy, vigorously growing normal plants. These plants with comparatively slender stem and small leaves were very late-flowering and the pod was small and stumpy. Among these variants, one plant was characterized by the presence of a very short and slender stem (Fig. 1) (length 97·5 cm.; thickness 5·2 mm.) and bearing a few flowers, from which only nine mature pods developed, measuring 1–1·5 cm. in length and 4–5 mm. in breadth. Six of the pods were empty. In the remaining three pods, one to three full seeds and two to three shrivelled seeds were obtained.

In most of the anthers, unseparated tetrads with collapsed walls were found. The anthers of the flowers did not dehisce; pollen sacs were empty with collapsed walls, though two full grains, taking stain in iodine, were found in a flower.

Of the seven full seeds, which are similar morphologically to the seeds of normal plants, three were germinated; from these, chromosome investigations were carried out. In the orcein squash of root-tip meristem of all the three seeds, seven chromosomes were counted from the metaphase plates (Fig. 2).

The seeds having haploid number of chromosomes may have arisen by parthenogenesis of a cell from the female gamete[4].

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VIROLOGY

Transmission of Lapinized Rinderpest Virus by Contact between Rabbits

Rabbits are readily infected with lapinized rinderpest virus administered parenterally, but contact infections are alleged not to occur[1,2]. Protocols, however, have not been published yet.

Eight groups of twenty rabbits were randomly paired and each pair was closely confined in a cage measuring 45 × 45 × 45 cm. One rabbit of each pair was given 1,000 ID_{50} of lapinized rinderpest virus intravenously. Rectal temperatures were recorded daily. In the first trial insufficient attention was paid to the risk of transmission by clinical thermometers for we have found since that lapinized rinderpest virus can be recovered from the fæces of infected rabbits and that intrarectal instillation of the virus readily infects. In subsequent trials different thermometers were used to record the temperatures of inoculated and uninoculated rabbits.

Close contact was maintained until the inoculated rabbit died. Thereafter the uninoculated rabbits were observed for a further period of 10 days, after which they were killed and examined for signs of rinderpest. In the final trial the period of observation was extended to 30 days. Uninoculated rabbits which developed a fever were killed and examined. Tissues from those having suggestive lesions were collected, emulsified and inoculated into other rabbits.

All eighty inoculated rabbits were infected and all died. In the first trial one of the in-contact rabbits contracted rinderpest and we now believe that transmission occurred rectally via the thermometer. In the subsequent trials two in-contact rabbits had suggestive lesions but virus was not recovered from their tissues and infection was not considered to have occurred.

Our findings have confirmed the earlier statements that contact transmission of lapinized rinderpest virus does not occur between sick and healthy rabbits. Direct contact, nevertheless, is the primary mode of transmission of wild strains of rinderpest and all authenticated outbreaks in previously disease-free countries have been linked to the importation of live animals from endemic areas[5]. Lapinized rinderpest virus has undergone many serial passages in rabbits and in the process has become attenuated for cattle and, at the same time, highly virulent for rabbits. It has also lost its ability to transmit by contact. In this respect it simulates the Kabete *O* strain of rinderpest virus which has been 'needle-passaged' in cattle for many years and which does not spread readily between sick and healthy cattle although it is highly virulent for cattle[3]. Presumably the route of infection with both strains has favoured the selection of mutants deficient in natural invasiveness. Both strains still, however, induce gross changes in the alimentary tract[4].

Recognition of the possibility of selecting mutants of virulent strains of virus which do not spread by contact should stimulate the search for a selection of similar mutants of attenuated strains intended as live virus vaccines.

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Photo-Reactivation of Tobacco Mosaic Virus *in vivo*

Tobacco mosaic virus, inactivated *in vitro* by ultra-violet irradiation, could not be photo-reactivated by exposing plants, inoculated with the inactivated virus, to light[1,2]. However, ribonucleic acid preparations from tobacco mosaic virus could be photo-reactivated in this manner, following inactivation by ultra-violet light[1,3]. Siegel *et al.*[4] investigated the effects of ultra-violet light on tobacco mosaic virus and tobacco mosaic virus nucleic acid, at different times after inoculation of *Nicotiana glutinosa* plants, on which local necrotic lesions are formed. They interpreted their results to suggest that the nucleic