0·53. Also Ac_6-derivatives, mixed melting point, 143° C.

These *d*-gallocatechins from different sources may, therefore, be regarded as identical. Oshima's original 'casuarin', therefore, possibly consisted of a mixture of *d*-gallocatechin and *d*-catechin, as (*a*) 'casuarin' gave a blue-green coloration with ferric chloride, compared with the distinct blue and green colorations furnished by *d*-gallocatechin and *d*-catechin respectively, and (*b*) Oshima also did not report the separation of the *d*-catechin, which appears essential from the above findings. Alternatively, Oshima's physico-chemical constants could be incorrectly reported, should the *d*-catechin content of the bark of *C. equisetifolia* be so variable as to be abnormally low or absent under certain conditions.

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DAVID G. ROUX

Leather Industries Research Institute,
Rhodes University,
Grahamstown,
South Africa.
Nov. 3.

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Androgenic Haploids of a Toad, *Xenopus laevis*

ANDROGENIC haploids of *Xenopus laevis* have been made using Porter's technique[1]. Fertilized eggs were obtained from a pair of toads which had previously been injected with a commercial preparation of anterior pituitary-like gonadotropins (350 I.U. for female, 150 I.U. for male). All operations on eggs were carried out at room temperature in a 100 per cent Holtfreter solution.

Fertilized eggs had most of the jelly coat removed and were then held, animal pole up, in a hemispherical egg-sized depression by a glass loop. A glass needle, finely pointed on a de Fonbrune microforge, was inserted at the white spot marking the position of the second polar body any time up to ½ hr. after laying. The needle was then drawn up slowly so that a small exovate containing the ovum nucleus was released. The jelly coat was self-sealing, but some yolk did leak into the space between egg and vitelline membrane.

The number of haploids surviving at least to hatching was 25 out of 94 operations. 100 per cent of the controls survived. The criteria for determination of haploidy were the obvious external symptoms of the haploid syndrome[1], together with a comparison of nuclear size with normal diploids of the same age. 100 nuclear diameters were measured in each of seven post-neurula tadpoles of which two representatives are given below.

	Mean (μ)	S. deviation	Age (days)
1. Diploid	9·09	1·50	5
2. Haploid	6·71	0·89	5

Such differences are to be expected if haploid nuclei have half the volume of diploid nuclei.

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LOUIE HAMILTON

Department of Zoology,
King's College,
University of London,
Strand, W.C.2.
Nov. 1.

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Formation of Starch in Young Maize Kernels

THE starch laid down in all maize kernels contains both amylose and amylopectin, except in the case of 'waxy maize' the starch of which contains no amylose or at most an amount too small for detection with certainty. It might therefore be assumed that waxy maize differs from other maize in being unable to synthesize amylose. This, however, is not the case.

The first formation of starch in young kernels may be observed by the method of Duvick[1] and of Hori[2], which consists in the incubation of thin slices of the immature (starch-free) kernels in a solution of glucose-1-phosphate, then staining them with iodine. Under the microscope newly formed starch appeared as discrete, blue-stained granules (indicating amylose) with the maize used by the previous authors. We expanded these experiments using slices from starchy, waxy, sugary waxy, and sugary high-amylose[3] varieties of maize, and employing several sugars and sugar phosphates as substrates.

It was observed that normal starch synthesis had not yet begun in kernels of either starchy or waxy maize at 5–7 days after pollination, by testing control slices cut from the same kernel. The formation of starch granules was, however, observed in such slices after incubation with 1 per cent glucose-1-phosphate at 15° C. for 24–48 hr. Contrary to expectation, the waxy, as well as the starchy, variety formed granules that stained blue with iodine.

In kernels 10–12 days after pollination normal starch synthesis had already begun, and all control slices showed the presence of starch granules in some of the endosperm cells. Slices cut from the starchy variety contained starch granules that stained blue with iodine and slices from the waxy variety contained starch granules that stained red with iodine (amylopectin). After incubation with 1 per cent glucose-1-phosphate at 15° C. for 24–48 hr., the cells of the endosperm of the starchy variety were filled with starch granules which stained blue with iodine. The cells of the endosperm of the waxy variety, after similar incubation with 1 per cent glucose-1-phosphate, were also filled with starch granules, some of which stained blue with iodine while others showed a red centre and blue outer layer. Neither glucose (10 per cent) nor sucrose (10 per cent) nor any of the following (at 1 per cent levels) was effective for the formation of starch granules of either type: glu-