even if dry seeds are germinated on moderately moist filter paper. Aeration with humid air can 'restore' the viability of the seeds, that is, it can prevent soaking injury (Table 3)

L. Pólya

Botanical Institute,
L. Kossuth University,
Debrecen, Hungary.

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High Polyploidy in a New Zealand *Poa*

The basic chromosome number of *Poa* is 7. Of the New Zealand species so far examined, the majority are tetraploid ($4x = 28$) and one species is 12-ploid ($12x = 84$). A much higher number has now been found in plants of *Poa litorosa* Cheesem., collected in the Auckland Islands. Preparations of mitosis show

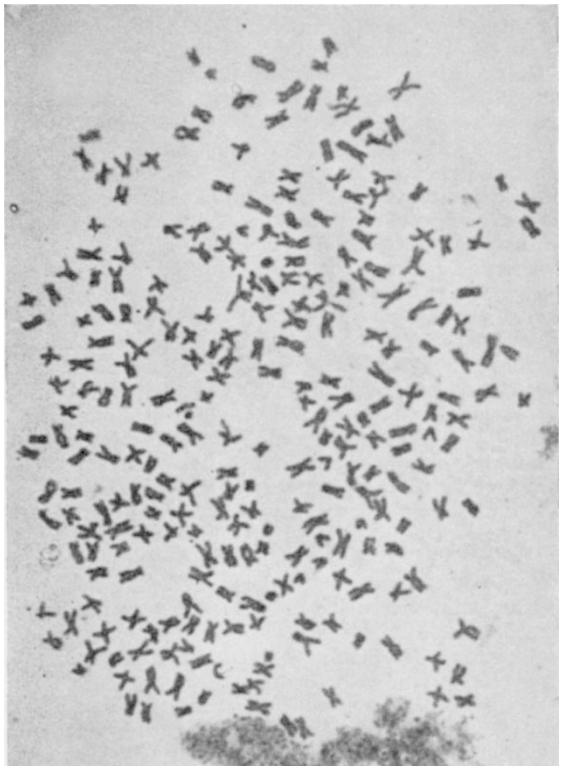

Fig. 1. *Poa litorosa*. Somatic metaphase showing 265 chromosomes (colchicine-2*BD*-Feulgen squash of root tip. × 1,500)

263–265 chromosomes (Fig. 1) and the species is therefore approximately 38-ploid. So far as we are aware, this is the highest chromosome number yet recorded in the Gramineae or in the Monocotyledons as a whole. Studies of meiosis and of the breeding system have yet to be undertaken.

J. B. Hair
E. J. Beuzenberg

Botany Division,
Department of Scientific and Industrial Research,
Christchurch,
New Zealand.

BACTERIOLOGY

Absence of the Glucose Effect on the Frequency of Lysogenization in *Salmonella typhimurium*

When a sensitive bacterial cell is exposed to a temperate bacteriophage it may undergo lysis, become lysogenized, or remain uninfected. The relative frequency with which these responses occur depends on the genetic structure of the phage and the conditions of the infection. The outcome may be influenced by temperature[1], multiplicity of infection[2], and the addition of various chemicals[3,4]. In a recent paper[5], it was reported that glucose added to a nutrient agar medium affected a 100 per cent lysogenic response with *Salmonella typhimurium* strain *LT*2 (C^+dg^s)[6] and phage *PLT*22, while a glucose diauxie-resistant variant of this strain (C^+dgr^{-1})[6] was found to be immune to this apparent glucose effect. These conclusions were based on observations of 'turbid' or 'less turbid' plaques as the criteria for lysogenization or lysis, respectively, of the initially infected cell. Recent attempts to duplicate these experiments were not successful, nor could any glucose effect on the frequency of lysogenization be detected using a more direct and reliable method developed by Luria and Fraser (ref. 4). (We wish to thank E. Bertani for details of the method and the indicator strain.)

This latter method involves plating cells infected with phage *PLT*22 on *EMB* galactose medium in a soft agar layer with a galactose non-fermenting (*Gal*$^-$) indicator strain of *LT*2. The infected cells that undergo lysis form plaques in 18 hr., infected cells that are lysogenized form dark colonies surrounded by clear halos in 48 hr., and uninfected cells form dark colonies without halos in 48 hr.

The maintenance of strains, *Salmonella typhimurium LT*2 (C^+dg^s), the glucose-resistant variant (C^+dgr^{-1}), and the *Gal*$^-$ variant indicator (which was also methionine-negative and histidine-negative), and the production and maintenance of phage were as previously described[6].

In the first two experiments the infection procedure was essentially as described by Bertani[4]. An aerated overnight culture of strain *LT*2 (C^+dg^s), grown in nutrient broth, was diluted into fresh nutrient broth and aerated at 37° C. to about 5×10^7 cells/ml. The

Table 1. Frequency of Lysogenization with Glucose present during the Early Phase of the Latent Period

Media during first 10 min. of latent period	Lytic centres*	Lysogenic cells*	Uninfected cells*	Frequency of lysogenization (per cent)
Nutrient broth	35	34	36	49
Nutrient broth plus 0·2 per cent glucose	51	38	27	43
Nutrient broth plus 2·0 per cent glucose	50	41	34	45

* Figures represent average of three plates (0·1 ml. per plate)

Table 2. Frequency of Lysogenization with Glucose present during Adsorption and during the Early Phase of the Latent Period

Media during adsorption and first 10 min. of latent period	Lytic centres*	Lysogenic cells*	Uninfected cells*	Frequency of lysogenization (per cent)
Nutrient broth	30	40	30	57
Nutrient broth plus 0·2 per cent glucose	45	33	20	44

* Figures represent average of three plates (0·1 ml. per plate).