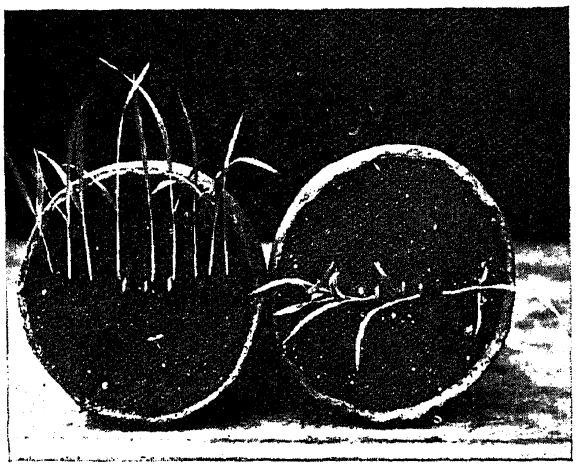

Fig. 1.

Normal Seedlings. Ageotropic Seedlings.

Fig. 2.

and prostrate are being grown this season for confirmation of their behaviour in inheritance. While in the case of maize, the gene for *'lazy'* is a simple mendelian recessive, in this case with rice it appears to be a simple dominant. The fact that parallel mutations are in some cases dominant and in other cases recessive is still mysterious and requires investigation. Studies on the response of this ageotropic mutant to light are under progress.

Though the mutation described above was derived from the material that was subjected to X-rays the possibilities of such a mutation occurring independently in nature are not entirely ruled out but so far as the authors are aware no record has been made of such a mutation occuring in rice.

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Visibility of Ultrasonc Waves in Liquids.

THE theory regarding the visibility of ultrasonic waves as given by N. S. Nagendra Nath, which is under publication in the *Proceedings of the Indian Accademy of Sciences* for September, has been verified by me in this laboratory.

The earliest observations were made by Hiedemann and his collaborators at Köln, and later by Bär at Zurich. Parallel monochromatic light falls on one face of a cell containing a liquid through which ultrasonic waves of frequency $7{\cdot}164 \times 10^6$ c./s. are passed. On the opposite face a microscope is placed, focussed on the optical grating formed by the sound waves. Stationary waves were used throughout.

The grating pattern of the field was obtained for one position very near the cell and the pattern repeated itself on moving the microscope through a distance corresponding to $d = \frac{\lambda^{*2}}{2\lambda}$ where λ^* and λ are the wave-lengths of sound and light respectively. Even at multiples of this distance, there was repetition of the pattern. This is in conformity with the theory put forward by Nath for the periodicity of the phenomenon and observed for the first time.

It was also noticed that at exactly half the distance required for the pattern to repeat, the fringes observed were doubled. At all other positions of the microscope only a constant intensity of the field was observed. This periodicity of the phenomenon gives yet another method for determining the velocity of sound in a liquid very accurately, for if we know d and λ, λ^* and hence v the velocity of sound can be calculated from the known frequency of vibration of the quartz. Thus for the frequency $7{\cdot}164 \times 10^6$ c./s. the velocity of sound for the following liquids were obtained:

Benzene	..	1302 m./s. at 25° C.
CCl_4	..	918 m./s. ,,
m-xylene	..	1320 m./s. ,,
and Anisol	..	1441 m./s. ,,

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