COVER

We are indebted to Dr. Peter Matthews and P. Linstead of the John Innes Institute, Norwich, U.K., for the SEM microphotographs showing pattern variation of the seed surface (See cover). The following background information was provided by the researchers.

The photos are part of a general SEM survey of seed samples contained in the John Innes Germplasm Collection. In a preliminary survey, twenty-six accessions were selected to represent the widest possible range of plant types within the genus. The survey has revealed a great wealth of variation as yet undescri'bed. Included in the study were accessions of various taxa, wild and domesticated, from Afghanistan, the Balkans, Bolivia, the Caucasus, Mongolia, Pakistan, Syria, and Turkey, including tragacanth secreting lines and commercial cultivars.

The testa shows a repeating pattern of hexagonal units which are presumed to be derived from chitin excrescences originating from the epidermal cells of the testa. The patterns created are distinctive for taxa designated fulvum, abyssinicum, elatius and sativum. Also, within P. sativum there is apparently much variation. Testae of elatius reveal details of expression of the gene Gty which determines the "gritty" phenotype.

Testa topography, as revealed in these SEM photographs, shows a strong affinity with that found in Vicia. The significance of this variation remains obscure.

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