

were combined with modern techniques of electron microscopy, results obtained after deoxyribonuclease treatment of salivary-gland chromosomes of *Drosophila* fixed in osmium tetroxide and stained by the Feulgen method suggest that the main structural fibres are immune to nuclease or acid hydrolysis. New evidence has been obtained that the 'chromosome' of bacteriophage T2 contains nucleic acid exclusively and that it can multiply in functional form in bacterial cultures containing chloramphenicol. Further work on bacteriophages indicates that reverse mutations restoring the adsorptive capacity occur at the sites of the forward mutations from which they are derived.

Preliminary studies with stocks of the bacterium *Salmonella typhimurium* having various combinations

of genetic markers representative of a cystine locus and four tryptophan loci which are so clearly linked that they are carried forward in one transducing fragment have shown that these separate portions of a fragment may be incorporated simultaneously into a newly formed bacterial chromosome. Evidence has been obtained that a transducing fragment is not a randomly selected section of bacterial chromosome, and investigation of the process of haploidization with *Aspergillus* has shown that most haploids arise as a consequence of stepwise loss of one member of the various chromosome pairs. A survey of deoxyribonucleases located a better source of material in salmon testes, and procedures for its extraction and purification are being developed.

EUROPEAN BREWERY CONVENTION TRIALS

THE seventh report of the Barley Committee of the European Brewery Convention deals with the series of field trials carried out in 1956. This co-operative effort, in which thirteen West European countries participated, is the only one of its kind and provides an important precedent for similar work with other crop plants. In the report, comprehensive data collected from the trials are given for each country in which they were conducted. The grain was malted and the relevant analyses are listed. In addition, in Denmark, the malts were subjected to small-scale brewing tests.

It is interesting that grain yields, from the best varieties, were around two tons per acre, at one time considered an exceptionally high yield for the crop. Three varieties, Carlsberg II, Ingrid and Proctor, yielded consistently well in all countries, except for the last in Norway, whereas others, although doing well in some areas, were often poor elsewhere. This adaptability to, and tolerance of, a wide range of environments is an extremely valuable character and appears to come from a single genic source, since these three hybrids, although bred in different countries, Denmark, Sweden and England, respectively, are derived, on one side of their pedigree, from

common 'grandparents'. The report mentions that a sub-committee is studying the influence of climate on yield and quality, which should provide useful information on adaptability.

The outstanding feature of a dormancy assessment, made by comparing germinative energy with germinative capacity three weeks after harvest, was that under Norwegian conditions all varieties were extremely dormant except the locally bred Dømen. This variety did, in fact, show little or no dormancy in any trial. In no country was the grain quality exceptionally good because the nitrogen contents were high. It is apparent from the malt analyses that the varieties being studied differ from each other within a narrow range of variation. It is also apparent that the high-yield potential of the new varieties has not been obtained at the expense of grain quality; the two characters can be combined in one variety.

The "Descriptions of Barley Varieties" first published by the European Brewery Convention in 1954 is now undergoing revision. A new edition will be issued approximately every five years in order to include new varieties as they come into trial as well as additional information on established ones.

D. H. B. SPARROW

SOCIAL BEHAVIOUR IN THE WILD RABBIT

By K. MYERS and R. MYKYTOWYCZ

Wildlife Survey Section, Commonwealth Scientific and Industrial Research Organization, Albury, New South Wales, and Canberra

UNTIL now, practically all the available information on the social behaviour of the wild rabbit (*Oryctolagus cuniculus* (L.)) has been provided by Southern¹ from his study of a natural warren population near Oxford, carried out during the three years 1939-41. He described the dominance of "certain of the bucks" in the community and their behaviour in relation to their individual "spheres of influence"; he emphasized the "territorial conservatism" of the adult does in particular; and he explained that the social behaviour he observed would encourage polygyny, rather than promiscuity, in a rabbit colony.

As part of its ecological investigations on the rabbit, the Wildlife Survey Section of the Commonwealth Scientific and Industrial Research Organization has developed techniques for maintaining rabbits in enclosures, about 2 acres in area, so that they breed naturally, the individual history and behaviour can be recorded, and activity observed at night as well as during the hours of daylight. Recently, experimental populations were established in enclosures at Canberra and at Albury for studies that were originally unrelated and not primarily intended to be behavioural. These enclosures offered unparalleled opportunities, however, for studying the