

through bacteriology and agronomy to public policy. Some of the contributions are particularly noteworthy. R. Meagher provides an elegant characterization of cauliflower mosaic virus, a possible molecular cloning vehicle for higher plants. When this characterization is combined with the further description of the *Agrobacterium* plasmid by J. Schell and M. Van Montagu and by E. Nester *et al.*, it is clear that genetic modification of higher plants via recombinant DNA may soon be an experimental reality. R. W. F. Hardy presents a thoughtful and direct analysis of what is known about the biological factors that limit plant productivity. Techniques allowing genetic manipulation of *Rhizobium* species are described in several articles. These advances portend rapid and exciting developments in the genetic engineering of these important bacteria.

Whatever the eventual role of molecular biology in crop production, it is essential to begin to approach the classical holistic descriptions of plant productivity with reductionist and analytical tools. This volume marks an excellent start to the process, and it is interesting (and even exciting) reading. In several instances authors take diametrically opposed viewpoints, and on other topics there is a dearth of experimental evidence and speculation prevails. As the work toward a molecular understanding of crop productivity proceeds it is important to remember that molecular analysis cannot be judged a success until all of the intellectual gingerbread results in real world consequences.

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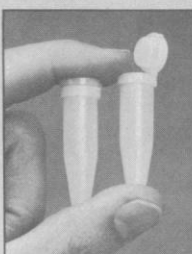
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