
The author (an anthropologist) explains that his aim in writing this book is to show that Zapotec in agricultural activities in Talea are as much a science as that of agronomists trained in the universities. For our readers such proof is unnecessary. The methods he describes to prove his thesis is a must-read for economic botanists. Dr. González actually lived and worked for fourteen months with the campesinos of Talea. He planted and harvested corn, made unrefined brown sugar, and worked the coffee plantations, which is the cash crop in Talea. With great effort, he learns to use a machete and other items he labors to describe as “implements” rather than tools or machines. He also plays the trumpet in the village band.

González gives a thorough history of Talea from the Spanish Conquest to the local and national politics of today. He is an excellent writer and, except for the “proof” parts of the text, a fascinating one. After a thorough reading this reviewer felt almost as if she had been there. However, while the men were working long days and nights far from home, the lives of their wives and children who remain in the village are an almost total blank. Had there been a Ms. González living among them our picture of this vanishing agricultural way of life would have been complete.

Their way of life is vanishing because these campesinos are economically successful. Their preserved raw brown sugar safely wrapped and stored can always be sold for a premium to those who dislike the refined sugar sold cheaply in the stores. The coffee is not top quality but does bring a good price. The campesinos are not extravagant. They save their money and send their children to college. So they are probably the last generation to farm by these methods. At least we have a carefully detailed description of how they did it.

This book includes all, or most, senses of the term Biotechnology: from traditional plant breeding to genetic engineering and, besides, the use of a living organism (alfalfa) to produce industrial molecules. It represents an extraordinary effort to show the situation of forages concerning genetic engineering applications. It is obvious that in some chapters the new techniques are scarcely represented; in his Conclusions (ch. 17), McKersey mentions two reasons: “As the first genetically engineered plant varieties . . . enter the marketplace . . . forage crops lag behind” and “. . . forage crop research . . . lie firmly in the public domain and biotechnology lies largely in the domain of multinational corporations” (pg. 428).

In spite of both statements, the amount of information presented indicates that, at least in certain fields, some forages are good examples of applications, especially alfalfa. Red and white clovers and bird’s foot trefoil have a much lesser importance, especially from the biotechnological point of view.

Part II contains plant breeding methods and auxiliary technics, as germplasm in vitro conservation. Links between classical selection and the use of biotech approaches, for example, advances in the genetic map in alfalfa, are well explained in the rest of Part II. A minor criticism is possibly that the peculiarities due to the tetraploid nature of alfalfa would have required a little more attention, as they are important both for classical and “biotechnological” breeders.

Other possibilities suggested by the easiness of alfalfa to regenerate in vitro such as cloning to produce commercial hybrid seed or synthetics, or the use of molecular markers not only in mass assisted phenotypic selection but also in somatic asymmetric hybridization are explored, but some problems, especially the cost, remain to be solved.

Part III contains several important cases of biotechnological applications: condensed tannins, temperature and drought stress, and salinity and aluminum stress; success is irregular, as honestly explained through this section. To complete the information given in this volume, very recently a transgenic alfalfa adapted to acid and aluminium-rich soils has been obtained.

Part IV (applications to pest and disease resistance) contains, on the whole, less direct references to forages than Part III concerning the use of genetic engineering techniques. It is a field being developed in other crops and in the model plant, Arabidopsis thaliana. Nevertheless, the review is perfect and the three chapters inform not only of the achievements and general prospects, but also of the possibilities for forages by explaining the main pests and diseases where the novel methodology should be applied.