I. INTRODUCTION

When considering economic returns of forage fertilization, a broad subject is covered. Farmers in every state in the Union are fertilizing one forage or another in varying amounts. Practically all silage and haylage crops are regularly fertilized; the tame hays receive some fertilizer and, by definition, the improved pastures in the humid east are fertilized at seeding and periodically thereafter.

Reports of fertilizer experiments come from every state. This chapter is not a review of research; the objective is to relate this research to the economic test of farm practice.

Some ranchers on short-grass range are fertilizing grass meadows with nitrogen and, with some other improvement practices, are cutting their winter hay from 1/4 to 1/2 the land area cut in the past. The same thing is occurring in the Pacific Northwest.

Three years ago the Southern Pasture and Forage Crops Improvement Conference met in Puerto Rico. The conference visited an old sugarcane farm near San Juan which was selling nearly 1,100 kg/ha/yr of beef produced from grass, minerals, salt, and water. Fertilizer rates were over 1,100 kg/ha of a 14-4-10 fertilizer.

In a broad sense then, forage fertilization has met the test of farm economics in the minds of some farmers and ranchers over a wide area and, in some sections of the country, for a long period of time. However, many others do not believe that money spent on improving forages, especially for beef, return a profit.

II. FORAGES AND BEEF

In North Carolina the trend is for beef cattle to consume most of the pasture, dairy cattle most of the silage, and horses most of the hay. Most of