The Role of the Commercial Engineer in a Forage System Analysis

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The farmers of the world have a vast range of equipment at their command from tillage, seeding, and harvesting to handling and feeding. The commercial agricultural engineer has been in the forefront of bringing new technology to the farm. The technology is basically the result of working with farmers and identifying their needs to assist in producing food and fiber of the highest quality.

The commercial engineer in the forage system needs to know not only engineering, but also the biological and soil sciences. The engineer merges these disciplines by applying them to the areas of power and machinery, product processing, rural environment, and soil and water conservation. The commercial engineer dealing with forage must understand the physiology and agronomic characteristic and growth habits of the plants involved as well as mechanical engineering. The harvesting of forage crops must be done with particular efforts exerted in maintaining the nutritional value of the forage crop.

The agricultural needs are identified by one of many people (engineering, manufacturing, marketing, sales, personnel, farmers, ranchers, and university research departments). Once the need is identified, a draft of general specifications for a system or component is written. The commercial agricultural engineer then has the challenge of putting the abstract ideas and concepts into a finished form that will fill a role within a forage system at a cost the farmer (producer) can afford.

EQUIPMENT DEVELOPMENT

The development of equipment for use in a forage system presents many unprecedented problems. The engineer must take some rather fragile