

Maximizing Alfalfa Yields — A Look Back

DR. JOHN E. BAYLOR
Retired Forage Specialist
Penn State

The nationally recognized Pennsylvania Alfalfa Growers Program sponsored by PFGC in cooperation with Penn State involved nearly 400 Pennsylvania alfalfa growers and ended about 12-14 years ago.

However, alfalfa growers in Pennsylvania and around the U.S. are still benefiting from many of the lessons we've learned.

And while during the past decade or so we've continued to see improvements in cultivars and management practices much of which we learned in the late '70s and '80s is still valid.

Below is a summary of the production practices of top producers in that program. The overall average estimated hay equivalent yield for the top 10 growers in each of the first eight years approached eight tons per acre, the yield goal recommended by many experts at that time for good soils, and more than 2½ times the state average.

Cultivars

Over the eight-year period, at least 15 different high-yielding cultivars were used by the 80 top growers. These cultivars or varieties were also consistently among the highest yielding in replicated trials in the state.

Soils And Fertility

All top growers planted alfalfa on well-drained soils, consisting mainly

of limestone. Lime and fertility programs for establishment and maintenance were based on soil tests and grower experience.

Most producers applied sizable amounts of dairy cow manure in the rotation before alfalfa. When yields exceeded eight tons of hay equivalent per acre, nutrient removal of phosphorous and potassium frequently exceeded 125 pounds and 600 pounds per acre, respectively.

Establishment

Most top yields were obtained the first full harvest year after the year of seeding and were, for the most part, from stands seeded in the spring without a companion crop. For the majority of those fields, a herbicide was used to control weeds establishment.

Many top producers also used an insecticide at seeding time to protect

new stands against troublesome insects. Seeding rates were generally in the neighborhood of 15-16 pounds of properly inoculated seed per acre for these top top yields.

Frequency Of Harvest

Over the eight-year period, all top growers made at least four cuttings per year and several harvested their crops five times.

At that time, when three cuttings per year had been common, this move to more frequent harvests by top producers indicated the potential of more intensive management for high yields of high quality forage.

Cutting intervals of 35, 38, and 45 days between cuts 1 and 2, 2 and 3, and 3 and 4, respectively, appeared nearly ideal for Pennsylvania growers at that time.

While weather conditions then and now frequently dictate frequency of cutting, most top growers were able to maintain a cutting schedule close to the ideal.

Storage

In 1978, the second year of the program, three of the top 10 growers

stored all of their cuttings as silage with eight storing one or more cuttings in that form.

For the other years, nearly every top producer stored at least one cutting as silage with about 40 percent of those growers storing all cuttings in the silo.

Disease Control

Controlling insects attacking alfalfa, especially potato leafhopper, is essential to produce top yields of high quality forage.

Today new leafhopper — tolerant varieties promise to offer some protection against this pest. However, in most years all top growers sprayed their crop at least once, frequently more often, with an approved insecticide.

However, top producers also took advantage of the insect management program to help producers better predict the buildup of troublesome insects in individual fields.

Dollars And Sense

Keeping good records on production costs was an important part of the grower's program.

(Turn to Page 18)

Production Costs, Costs Per Ton, And Net Returns At Various Yield Levels; Pennsylvania Alfalfa Growers Program. (1981-84)

Yield Range Tons/A	Ave. Yield Tons/A	Production Cost/A	Cost Per Net Ton	Net Return Per Acre
<3.0 (1)	2.76	\$279.73	\$104.25	\$ 59.60
3.0-3.9	3.50	255.47	75.91	16.51
4.0-4.9	4.55	250.05	56.80	94.33
5.0-5.9	5.51	285.36	53.88	138.46
6.0-6.9	6.44	304.19	49.25	196.50
7.0-7.9	7.34	310.46	43.74	258.87
>8.0	8.13	344.20	43.95	310.21

(1) Ave. of 1983 & 1984 only.

Beginning Graziers Should Take It Slowly

COLUMBUS, Ohio - When Cyd Bickford and her husband Paul decided to try intensive grazing on their 600-cow, southwestern Wisconsin dairy farm six years ago, they converted the whole farm to pasture in the first year. It wasn't such a good idea.

"We weren't prepared for how sterile the soil was and how little it produced the first couple years," Bickford said. "It would have been better to have converted half the land to pasture and grown hay and corn silage during the initial stage, while the pastures developed."

Starting slower also would have allowed adequate time to plan how to set up permanent fencing and waterlines.

"We've pulled up more fence posts than most people have put in," she said.

The Bickfords will share their grazing experiences with interested beginning graziers in Akron, Ohio Feb. 16 at 11 a.m. during a "Getting Started Grazing" producer panel to take place at the Great Lakes Grazing Conference.

Beginners should learn from an experienced grazer before starting, so they don't make as many mistakes, Bickford said.

Keeping an open mind is important.

"It seems like the longer we graze, the more we learn there are no easy answers or bad answers. Just when we think we've got things under control, something causes us to change how we do things, especially the weather," she said. "Grasses grow too quickly or it gets too muddy to use lanes to some pastures, so we have to take pastures out or add them to the rotation before we'd planned."

Rick Duff, another member of the Getting Started Grazing panel who's

been intensively grazing 100 to 120 sheep on his Athens County farm since 1986, also believes it's important for beginning graziers to go slowly.

"I've made about every grazing mistake you could possibly make, but the danger today is that it's more expensive to make mistakes, because more people are trying to sell you things you may not really need, like inappropriate fences and expensive exotic grasses," Duff said.

He recommends new graziers keep their grazing system as simple as possible for a few years, so they can see how their pastures improve and perform and how their animals prefer to move through fields. Then they can spend money, if needed, on more expensive water systems, fence and grass seed.

Grazing takes more time starting out, but once a system is established, less labor is needed and the time involved is minimal. It could take as little as 10 minutes a day — just long enough to walk to the field, open the gate, let the animals go through, close the gate and walk back, Duff said.

Grazing is not only a science, it's an art, said Gary Wilson, agriculture and natural resources agent at the Hancock County office of Ohio State University Extension and the moderator for the Getting Started Grazing panel. Graziers must know when to put animals on pasture and when to take them off, how to sustain pasture growth and yield, when to rotate animals, and how to adapt all these things to their own soil, grass and landscape.

"New graziers need to learn the art of grazing — when to do things that maximize yield from pastures and growth of animals," Wilson said. "People who graze get most of their

information from each other, so having a panel where new people can talk with experienced graziers will benefit everyone who attends."

Any livestock producer who wants to learn how to develop a grazing system or improve details of their current system should attend the Great Lakes Grazing Conference, said Tom Noyes, dairy agent at the Wayne County office of Ohio State University Extension and one of the event's coordinators.

A conference highlight will be a presentation by Charles Opitz called Mastering the Art. Opitz, who has been grazing for more than 10 years on his 1,200-cow Wisconsin dairy farm, is considered one of the real masters of grazing, Noyes said.

David Kline, an Amish dairy grazer in Holmes County, will discuss how grazing affects the whole farm. The conference also will include presentations by university grazing specialists from Michigan State University, the University of Missouri, Ohio State, Penn State University, the Uni-

versity of Wisconsin and the University of Guelph in Ontario, Canada.

Last year, more than 400 people attended the conference, and Noyes expects better numbers this year.

"The conference has become one of the premier grazing conferences in the Midwest," he said. "Most of our topics are a result of last year's evaluations. We took a lot of their ideas and molded the conference around what participants said they'd like to hear."

The Great Lakes Grazing Conference runs from 8 a.m. Monday, Feb. 16 to noon Tuesday, Feb. 17 at the Ramada Plaza in Akron. Registration is \$40 for the first person from each farm before Feb. 5 and \$50 after. Additional participants from the same farm pay \$25 before Feb. 5 and \$35 after. Mail-in registrations must be sent by Feb. 10.

For registration after that date or for more information about the conference, those interested should contact the Wayne County office of Ohio State University Extension at (330) 264-8722.

