

'Forage Suitability' Something That Can Be Plotted, Used By Producers

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First cut hay is difficult to field cure without rain damage due to high humidity and significant rain events occurring within 3 days of each other. Later cuttings are less likely to be rain damaged, but in wetter years, may also be damaged by rain and long exposure to sun while field curing. Tedders or inverters will promote more even, quicker drying of the hay. An option to consider is harvest as haylage. Haylage production reduces the amount of drying time needed and will thus yield a higher quality forage if ensiled and stored properly. Ordinarily, haylage can be wilted and harvested between rain events.

Management Dynamics: Liming these acidic soils will allow for a wider selection of suitable forages and lead to increased forage production on previously unlimed soils. Depending on the forage species grown, increasing the surface soil pH to 6.5 will increase yields 20 percent for tall warm season perennial grasses to as much as 100 percent for alfalfa. Cool season grasses will yield 50 percent more. Legume persistence will be increased.

Using facilitating practices of fencing and watering facilities to control livestock movement as mentioned above will better distribute grazing pressure. This will prevent areas of over-utilization and under-utilization from developing. Over-utilized areas will evolve into low-growing sod formers and weedy rosette plants (dandelions and

FORAGE SUITABILITY GROUP
 Deep, channery, well drained, strongly acid, moderately steep upland soils (plantains). Bare areas will appear between plants in advanced stages of decline. Underutilized areas will tend to evolve toward taller growing species. In more remote areas near wooded borders, woody vegetation, such as blackberry, prickly ash, and sumac, invade. Underutilized areas will have more dead leaf and seed stalks than more closely grazed areas.

Since these soils are low in organic matter, they supply little mineralized soil nitrogen. Hence, non-leguminous forages respond well to nitrogen fertilizers. If grasses and non-leguminous forbs are yellowish green in color and urine spots are much darker green than their surroundings, nitrogen fertilizer is needed. Forage production can double.

Site Documentation: Similar forage suitability group - G-127NY400PA. Deep, well drained, strongly acid, moderately steep upland soils. Nonchannery phase of the same soils on D slopes (15-25 percent). Higher AWC gives them production capabilities approximately 25 percent better than G-127NY401PA. The absence of significant amounts of channers makes seedbed preparation easier, requires less equipment maintenance, and improves seedling survival. Post setting is also easier.

References: Cornell U Ag Exp. Sta Bull 995-Interpretation of Chemical Soil Tests, FORADS Database-1995, AH296-Land Resource Regions and Major Land Resource Areas of The United States, Penn State Ag Exp Sta Bulletin 873 - Soil Climate Regimes of Pennsylvania, Penn State Agronomy Guide 1995-96, Penn State U Soil Characterization Laboratory Database System-1994, Soil Survey of Cameron and Elk Counties, Pennsylvania, and USDA, NRCS National Range and Pasture Handbook.

Forage Suitability Group Approval by _____ date _____

Philip Keeney Named 1998 Penn State Distinguished Alumnus

UNIVERSITY PARK (Centre Co.) — Philip Keeney, professor emeritus of food science and a researcher so identified with ice cream that he is known nationwide as "The Emperor of Ice Cream," has been named a 1998 Penn State Distinguished Alumnus, the University's highest alumni award.

"Philip Keeney has devoted more than 40 years of service to the food processing industry," says Robert Steele, dean of the College of Agricultural Sciences. "His work with ice cream and confectionery products over that time proved to be of major significance to the food industry and to agriculture as a whole."

Keeney, a native of Cedar Grove, N.J., is renowned within the ice cream industry for his breakthrough research on how fat emulsions affect the structure of ice cream during freezing. He also made significant contributions to research on the textural properties of corn syrups and developed microcrystalline cellulose as a texture and structural agent in ice cream.

After serving as a U.S. Army Air Corps B-24 bombardier from 1943-1945 in the Pacific Theater of Operations during World War II, Keeney entered the University of Nebraska, earning a B.S. in dairy technology in 1949. He worked as an assistant manager of a milk-drying plant in Winthrop, Minn., from 1949 to 1951. He earned an M.S. in dairy technology from Ohio State University in 1953 and earned his doctorate in dairy science from Penn State in 1955.

Keeney joined the Penn State faculty in 1955 as an assistant professor of dairy science. He was promoted to associate professor in 1962 and became a full professor in 1966. He became a member of the food science department when Penn State designated the dairy manufacturing major as part of the food science program in 1975. He served as food science department head from 1980 to 1985.

Keeney was director of the Penn State Ice Cream Short Course from 1955 until his retirement in 1985. The short course, which expanded during Keeney's tenure, attracts ice cream professionals from every state and many foreign countries. Keeney continues to help teach the course every year.

Keeney also directed Penn State's research on the chemistry of the cocoa bean and other chocolate-related projects from 1962 until his retirement. His research — which took him to such countries as Honduras, Brazil and Malaysia — centered on how post-harvest processing of cocoa beans affects chocolate flavor. In 1985, the cocoa research program was perpetuated with the establishment of a \$1.5 million endowment from the chocolate industry to study the molecular biology of cocoa.

Keeney developed and taught introductory undergraduate food science courses and developed graduate courses on product development and ingredient technology. He has been profiled as Penn State's emperor of ice cream in such media outlets as People, the "Today" show and the New York Times. He also presented an educational program on ice cream for the Smithsonian Institution's "On The Mall" series.

Keeney is a life member of the Penn State Alumni Association and is serving his third, three-year term on the board of directors of _____
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