tilizer will be made, but, in this case, what might otherwise be a serious pollution problem is expected to be rendered insignificant by a natural process of denitrification. Through this process, the nitrogen would be converted to a harmless gas. According to James W. Gilliam, an associate professor of soil science at NCSU who has conducted studies at experimental plots here, soil conditions are such as to provide both the rich food source and the anaerobic environment needed by the soil microbes responsible for denitrification. The organic material provides the food, and the soils' generally poor internal drainage, even after ditching, makes for a relatively high water table and thus for anaerobic conditions not far below ground surface.

With First Colony expected to have more than 100,000 acres cleared and in production by 1980, a conclusive test of Gilliam's optimistic prediction of no serious pollution cannot be far off. The farm and the state together have installed an elaborate water quality monitoring system. Samples are taken regularly from 23 different stations and sent to Raleigh for measurement of some 30 different things and characteristics, including turbidity, biological oxygen demand, nutrients, trace elements, and heavy metals.

Something else that First Colony will have to conclusively establish is whether, as a practical matter, wastes from the sow-unit and feed-lot operations can be sprayed on pastures and crops without causing pollution. In theory, this method of disposal is workable; but in an operation as large as the one planned here—the wastes generated by the sow-units alone will be equal to the sewage of a sizable city—there will be plenty of opportunities for accidental spills and other problems.

Some subsidence of the organic soils from compaction and biochemical oxidation is inevitable, but, according to Steven Barnes and certain agronomists at NCSU, there are special factors present that mitigate against the kind of marked subsidence that occurs in the Everglades, where up to a foot of soil may be lost in a decade. The natural acidity of the organic soils here, coupled with the relatively high water table expected to be maintained, will confine oxidation to the soils' dry and well-limed top layer. In the Everglades, by contrast, oxidation sometimes occurs throughout the soil profile.

A member of the state Environmental Management Commission, James Wallace, who is also a past president of the North Carolina Conservation Council and a professor of environmental law, recently visited First Colony. He found the management to be "openhanded" and "very sharp." Wallace rates First Colony's chances of complying with applicable environmental standards as reasonably good, provided all procedural requirements of the National Environmental Policy Act and other laws are met.

To relieve environmental concerns further, First Colony could grant conservation easements for some of the wild areas not suitable for farming. Covering up to 175,000 acres, these areas include hardwood swamps along the Alligator River that are a last refuge for the peninsula's diminishing population of black bear.

Caricature of an Agribusiness

Some will raise objection to First Colony on the grounds that it represents yet another big "agribusiness." Indeed, it is virtually a caricature of the agribusiness that gobbles up huge acreages, uses scarce energy in profusion, and seeks profit by converting plant protein that could help feed the hungry into beef and pork for the affluent.

But, as for First Colony's bigness, there is much to be said for it. If there were no large, well-financed operation of this kind here, local farmers perhaps could themselves eventually buy up and clear most of the potentially tillable wild lands. Given the high cost of such development, however, these farmers would be decades in doing what First Colony may accomplish in several years, without government subsidies of any kind.

Furthermore, First Colony employs about 500 persons (including contract workers) and it may ultimately employ 1000. Local officials and most peninsula residents view it as an economic boon to an area long depressed. Tyrrell County, at the very heart of the First Colony development, is the smallest county in North Carolina in population and is next to the lowest in per capita income. At a drainage permit hearing this past April, Ray McClees, speaking for Tyrrell's board of commissioners, said First Colony deserved every support in its effort to put land regarded heretofore as "almost worthless" into productive use.

Even if First Colony should eventually fail, and this is not a possibility to be lightly dismissed, it will nevertheless leave much land drained and cleared and more productive than it was when Malcolm McLean bought it. Environmentalists usually have reason to regard "irreversibility" as a dirty word, but the fact is that much of the land being transformed here today became a brushy wasteland years ago. Indeed, this change which the Albemarle-Pamlico peninsula is now undergoing may be the first that has ever held out a promise of doing much more good than harm.—LUTHER J. CARTER

RECENT DEATHS

William E. Curtis, 57; retired associate professor of biology, Allegheny College; 16 June.

John C. Frazier, 75; professor emeritus of biology, Kansas State University, Manhattan; 6 June.

Elizabeth L. Hazen, 89; former bacteriologist, division of laboratories and research, New York State Department of Health; 24 June.

Hubert Heffner, 44; chairman, applied physics department, Stanford University; 1 April.

Frank J. Hinds, 74; professor emeritus of biology, Western Michigan University; 20 June.

Donald E. Kerr, 59; professor of physics, Johns Hopkins University; 23 May.

Henry W. Knerr, 69; retired associate dean, Graduate School, Pennsylvania State University; 6 June.

Arnold Lazarow, 58; chairman, anatomy department, University of Minnesota; 25 June.

David Lewis, 71; professor emeritus of chemistry, City College, City University of New York; 18 May.

Gennard Matrone, 61; chairman, biochemistry department, North Carolina State University, Raleigh; 2 April.

Charles W. Metz, 86; former chairman, zoology department, University of Pennsylvania; 5 June.

Gerald L. Poor, 68; professor emeritus of education, Central Michigan University; 17 May.

Herbert A. Potratz, 72; professor emeritus of chemistry, Washington University; 28 March.

Edward E. Rall, 99; former president, North Central College; 30 April.

Byron Riegel, 68; former professor of chemistry, Northwestern University; 20 May.

Simon Rodbard, 64; director of cardiology, City of Hope Medical Center; 1 May.

William T. Sanger, 89; chancellor emeritus, Medical College of Virginia; 18 April.

Wilbur W. Swingle, 84; former professor of biology, Princeton University; 20 May.

Richard Wellington, 90; professor emeritus of pomology, Cornell University; 15 June.

J. Frank Whiting, 51; professor of psychology, Catholic University; 23 April.

Clinton E. Williams, 67; former professor of civil engineering, Union College; 30 April.

Edwin B. Williams, 83; provost emeritus, University of Pennsylvania; 28 April.

Roger E. Wilson, 39; associate professor of botany, Miami University; 26 April.