



NORTH DAKOTA
Farm Research

Bimonthly
Bulletin

Volume 28, Number 4

March - April, 1971



North Dakota State University Reports On
Environmental Quality

From the DIRECTOR

A. G. HAZEN



Dr. John Carew, head of horticulture at Michigan State University, first published this poem in the "American Fruit Grower".

In the beginning
There was Earth; beautiful and wild;
And then man came to dwell.
At first, he lived like other animals
Feeding himself on creatures and plants around
him.
And this was called IN BALANCE WITH NATURE.
Soon man multiplied.
He grew tired of ceaseless hunting for food;
He built homes and villages.
Wild plants and animals were domesticated.
Some men became Farmers so that others might
become Industrialists, Artists, or Doctors.
And this was called Society.
Man and Society progressed.
With his God-given ingenuity, man learned to feed,
clothe, protect, and transport himself more
efficiently so he might enjoy Life.
He built cars, houses on top of each other, and
nylon.
And life was more enjoyable.
The men called Farmers became efficient.
A single farmer grew food for 41 Industrialists,
Artists and Doctors.
And Writers, Engineers, and Teachers, as well.
To protect his crops and animals, the Farmer pro-
duced substances to repel or destroy Insects,
Diseases, and Weeds.
These were called Pesticides.
Similar substances were made by Doctors to protect
humans.
These were called Medicine.
The Age of Science had arrived and with it came
better diet and longer, happier lives for more
members of Society.
Soon it came to pass
That certain well-fed members of Society
Disapproved of the Farmer using Science.
They spoke harshly of his techniques for feeding,
protecting, and preserving plants and animals.
They deplored his upsetting the Balance of Nature;
They longed for the Good Old Days.

(Continued on Page 72)

In This Issue

INTRODUCTION

The Environment: An Administrator's Viewpoint	3
--	---

RURAL ENVIRONMENT

Environmental Quality — A Public Issue	4
Net Migration and Population Change in North Dakota, 1960 - 1970	6
Plants and Aesthetic Living	11
Prairie Forestry in North Dakota	13
Protecting Our Quality of Life	14

SOLID WASTES

The Solid Waste Crisis	18
Handling Livestock Waste	22

CHEMICALS

Herbicides in North Dakota's Environment	25
Fungicide Uses and Problems in North Dakota	29
Pesticides and the Environment	32
Nontoxic Approaches to Insect Control	33
GRAS (Generally Recognized As Safe)	36

SOIL

Effects of Pesticides on Soil Fertility	38
Phosphorus as a Pollutant in Surface Waters	40
Fertilizer Nitrogen Application to Wheat in Relation to Pollution	44
Soil Nitrogen Movement	49

TOXIC METALS

Mercury in Soil and Plant Systems: A Review of Literature	53
Radionuclides in North Dakota Soils	56

WATER

Soil Erosion as a Pollution Agent	58
Bacterial Counts of a Section of the Red River — Summer, 1970	60
Use of Gravity Shafts for Ground Water Recharge	62

AIR

Weather, Climate and Pollution	66
The Pro's and Con's of Nuclear Electric Power	70

ON THE COVER: The pasqueflower (crocus if you prefer) still can be found as a sure sign of spring, the earliest blooming thing on the prairie. But you can't find it everywhere. This hardy little perennial can maintain its own place among the wild plants of the native prairie, but it cannot survive the plow.