

publications were related to the study of grasshoppers.

Three of the 22 total publications used by high school biology instructors were used by more than 10 per cent of the respondents.

Conclusions

1. Vocational agriculture instructors made much more use of extension bulletins, experiment stations bulletins, and research reports than did junior high school general science instructors and biology instructors.

2. Junior high school general science instructors and biology instructors made little use of

extension bulletins, experiment station bulletins and research reports published by North Dakota State University.

3. The publications most frequently used were used in lesson plan preparation and as a student reference in classroom teaching, while the less frequently used publications were used as an occasional reference for instructors and students.

4. Research reports were used by fewer respondents than were extension bulletins and experiment station bulletins. This could be due in part to the relative complexity of the research reports.

Readership Profile Of Farm Research Bulletin

John F. Nowatski

This is a summary of a 1973 study to develop a profile of North Dakota Farm Research Bimonthly Bulletin readers, to determine how much of the bulletin was read and reader reactions to certain aspects of the publication.

Specific objectives of the study were:

1. To determine the age, place of residence, type of farmer or other occupation, years of formal education, and the size of farm operation of Farm Research readers.
2. To determine reader evaluations of reading level and the number of pictures used in each issue.
3. To determine other readers of **Farm Research** in addition to those people whose names appear on the mailing list.

The mailing list of **Farm Research** on February 1, 1973, included 13,896 names. This entire population was sent a survey questionnaire which was inserted in the January-February, 1973, issue of the publication.

Nowatski is a former graduate student, Department of Agricultural Education, now teaching at Fargo North High School.

A reminder card was included inside the front cover of the March-April, 1973, issue of the publication asking those who had not filled out and sent in the questionnaire to do so.

A follow-up letter and questionnaire were mailed to 10 per cent of the farm readers who had not returned the original questionnaire by March 26, 1973.

Questionnaires returned on or before April 30, 1973, were included in the data for this report. At that time, 2,186 (15.7 per cent) usable questionnaires had been returned, including the respondents to the follow-up study.

Information received from the returned questionnaires is summarized in the following tables.

Age Of Readers

Most of the farm respondents (75.8 per cent) were between 31 and 60 years of age. Only 6.9 per cent of the farm respondents were 30 years of age or younger.

TABLE 1. AGE OF READERS

Age Group	Farm Readers	Non-Farm Readers	Total Respondents
Under 21	2 (0.1%)	4 (1.0%)	6 (0.3%)
21 to 30	122 (6.8%)	76 (19.2%)	198 (9.0%)
31 to 45	547 (30.6%)	154 (38.9%)	701 (32.1%)
46 to 60	810 (45.2%)	137 (34.6%)	947 (43.3%)
Over 60	309 (17.3)	25 (6.3%)	334 (15.3%)
Total	1,790 (100.0%)	396 (100.0%)	2,186 (100.0%)

A smaller percentage (62.7 per cent) of the non-farm respondents than of the farm respondents were between 31 and 60 years of age. However, a larger percentage of the non-farmers were in the 21 to 30 age group. Only 6.3 per cent of the non-farm group were over 60 years of age.

Level Of Formal Education Completed

Almost two-thirds (63.0 per cent) of the farm respondents had not gone beyond high school. Almost one-fifth (18.2 per cent) had not gone beyond the eighth grade. Ten per cent of the farm respondents had completed four years or more of college.

Most of the non-farm respondents (87.1 per cent) held a baccalaureate or higher degree. This probably was because the bulletin was mailed to many professional agriculturists such as vocational

TABLE 2. COMPLETED BY RESPONDENTS

Level of Formal Education	Farm Readers	Non-Farm Readers	Total Respondents
Grade 8 or less	325 (18.2%)	2 (0.5%)	327 (15.1%)
More than Grade 8, Less than Grade 12	257 (14.4%)	6 (1.5%)	263 (12.1%)
High School Graduate	543 (30.4%)	20 (5.2%)	563 (25.9%)
1 yr. Vocational School	91 (5.1%)	3 (0.8%)	94 (4.3%)
2 yr. Vocational School	95 (5.3%)	5 (1.3%)	100 (4.6%)
2 yr. College	217 (12.2%)	10 (2.6%)	227 (10.4%)
More than 2 yrs. college, less than Baccalaureate Degree	78 (4.4%)	4 (1.0%)	82 (3.8%)
Baccalaureate Degree	129 (7.2%)	103 (26.5%)	232 (10.7%)
College graduate work or more	49 (2.8%)	235 (60.6%)	284 (13.1%)
Total	1,784 (100.0%)	388 (100.0%)	2,172 (100.0%)

January - February, 1974

agriculture teachers, county agricultural extension agents and soil conservationists.

Of the 12.9 per cent of the non-farm respondents who indicated they had not received a baccalaureate degree, only 56 per cent indicated they had not gone beyond high school.

Place Of Residence

Most of the farm respondents (89.2 per cent) resided on their farms during most of the year.

Only 9.2 per cent of the non-farm respondents lived on farms, most of which were probably rural acreages since the indicated size was 160 acres or less.

TABLE 3. RESIDENCE OF RESPONDENTS

Place of Residence	Farm Readers	Non-Farm Readers	Total Respondents
Farm	1,583 (89.2%)	35 (9.2%)	1,618 (75.0%)
Town (2,500 or less)	136 (7.7%)	82 (21.5%)	218 (10.1%)
Urban (2,500 or more)	55 (3.1%)	265 (69.3%)	320 (14.9%)
Total	1,774 (100.0%)	382 (100.0%)	2,156 (100.0%)

Twenty-five per cent of all the respondents lived in cities or towns.

Type Of Farming Or Other Occupation

Almost one-third (29.3 per cent) of the farm respondents raised only cash grain crops, while 2.5 per cent of the farm respondents raised only livestock. Most of the farm respondents (92.6 per cent) raised some cash grain, while 65.8 per cent of them raised at least some livestock. Only 4.9 per cent of the farm respondents indicated they were part-time farmers.

TABLE 4. OCCUPATION OF RESPONDENTS

Farming Type or Other Occupation	Farm Readers	Non-Farm Readers	Total Respondents
100%			
Cash Grain	518 (29.3%)		518 (24.3%)
75% Cash Grain, 25% Livestock	457 (25.8%)		457 (21.4%)
50% Cash Grain, 50% Livestock	447 (25.3%)		447 (20.9%)
25% Cash Grain, 75% Livestock	216 (12.2%)		216 (10.1%)

(Table 4 Continued)

100% Livestock	44 (2.5%)		44 (2.1%)
Part-time Farmer, Part-time Laborer	55 (3.1%)	1 (0.3%)	56 (2.6%)
Part-time Farmer, Part-time Agri-business	32 (1.8%)	1 (0.3%)	33 (1.6%)
Agri-businessman		50 (13.7%)	50 (2.3%)
Professional Agriculturalist		242 (66.1%)	242 (11.3%)
Other		72 (19.6%)	72 (3.4%)
Total	1,796 (100.0%)	366 (100.0%)	2,135 (100.0%)

Fourteen per cent of the non-farm respondents were agribusinessmen, the others were in professional or other agricultural occupations.

Size Of Farm Operations

The sizes of the farm operations of the respondents who indicated their occupations as farming or part-time farming are summarized in Table V.

TABLE 5. OPERATIONS OF RESPONDENTS

Size of Farms	Farm Readers
180 Acres or Less	25 (1.4%)
181 to 219 Acres	7 (0.4%)
220 to 259 Acres	15 (0.9%)
260 to 499 Acres	177 (10.0%)
500 to 999 Acres	444 (25.2%)
1,000 to 1,499 Acres	475 (27.0%)
1,500 to 1,999 Acres	277 (15.7%)
2,000 to 2,499 Acres	145 (8.2%)
2,500 Acres or More	197 (11.2%)
Total	1,762 (100.0%)

More than two-thirds (67.9 per cent) of the farm respondents operated farms comprising between 500 and 1,000 acres. Only 2.6 per cent of the farm respondents operated farms smaller than 260 acres. More than one-fourth (27.0 per cent) of the farm respondents operated farms of between 1,000 and 1,499 acres. There were 6.2 per cent of the farm respondents who operated farms larger than 1,000 acres and 11.3 per cent who operated farms larger than 2,500 acres.

Almost all the respondents (99.7 per cent) indicated they read articles at least occasionally. There was very little difference between farmers and non-farmers with respect to the frequency of reading articles.

TABLE 6. FREQUENCY OF READING BY RESPONDENTS

Frequency of Reading	Farm Readers	Non-Farm Readers	Total Respondents
Several Articles in Each Issue	1,586 (88.7%)	325 (82.1%)	1,911 (87.5%)
Occasionally	199 (11.1%)	68 (17.2%)	267 (12.2%)
Seldom	4 (0.2%)	3 (0.7%)	7 (0.3%)
Never	—0—	—0—	—0—
Total	1,789 (100.0%)	396 (100.0%)	2,185 (100.0%)

Difficulty Of Reading

While 0.9 per cent of all the respondents indicated the articles were too difficult to understand, most of the respondents (80.4 per cent) indicated the reading level was about right. Only (18.7 per cent) of the respondents indicated the articles were somewhat difficult to understand.

TABLE 7. DIFFICULTY OF READING THE PUBLICATION

Difficulty of Reading	Farm Readers	Non-Farm Readers	Total Respondents
Too Difficult to Understand	16 (0.9%)	4 (1.0%)	20 (0.9%)
Somewhat Difficult to Understand	354 (20.2%)	47 (12.0%)	401 (18.7%)
About Right	1,384 (78.9%)	340 (87.0%)	1,724 (80.4%)
Too Simple	—0—	—0—	—0—
Total	1,754 (100.0%)	391 (100.0%)	2,145 (100.0%)

Attitude Toward the Number of Pictures Used

Most of the respondents indicated the bulletin contained an acceptable number of pictures. Only 0.5 per cent of the respondents indicated there were too many pictures, while 23.2 per cent indicated not enough pictures were used.

TABLE 8. ATTITUDE TOWARD PICTURES IN THE PUBLICATION

Number of Pictures	Farm Readers	Non-Farm Readers	Total Respondents
Too Many Pictures	6 (0.3%)	4 (1.3%)	10 (0.5%)
Too Few Pictures	416 (24.3%)	53 (17.5%)	469 (23.2%)
Right Amount of Pictures	1,292 (75.4%)	246 (81.2%)	1,538 (76.3%)
Total	1,714 (100.0%)	303 (100.0%)	2,017 (100.0%)

Who Else Reads North Dakota Farm Research Besides The Subscribers?

Respondents' indications of who, other than themselves, read the copy of the bulletin are summarized in Table IX.

TABLE IX. WHO READS THE PUBLICATION

Who Else Reads the Publication	Farm Readers	Non-Farm Readers	Total Respondents
Spouse	679 (34.3%)	53 (13.5%)	732 (30.9%)
Other Family Members	743 (37.6%)	34 (8.7%)	777 (32.8%)
Others	150 (7.6%)	214 (54.6%)	364 (15.4%)
No One Else	405 (20.5%)	91 (23.2%)	496 (20.9%)
Total	1,977 (100.0%)	392 (100.0%)	2,369 (100.0%)

More than one-third (34.3 per cent) of the farm readers who responded indicated their spouses read the bulletin. Since most of the subscribers are male, spouse usually indicates woman. Non-farm respondents indicated 30.9 per cent of their spouses read the bulletin. Just over 20 per cent of the farm respondents and 23.2 per cent of the non-farm respondents indicated they were the only person reading the copy of the bulletin addressed to them.

SUMMARY OF SOME MAJOR RESEARCH PROJECTS IN THE AGRICULTURAL EXPERIMENT STATION

Alternative Uses of Wetlands

Benefits associated with the wetlands of North Dakota are both economic and esthetic. Economic benefits include recharge of ground water supplies, flood control and sources of water supply for livestock. Esthetic benefits include providing nesting and staging areas for waterfowl, as well as habitat for other wildlife. Game production provides other economic benefits to the community because of expenditures by hunters to the trade and service sector and, in some cases, to landowners for hunting privileges.

Costs also are associated with preserving wetlands. These include income that could be realized by farmers if they drained the wetlands and converted them to agricultural production. Lands kept out of production also cost the business community through loss of potential sales of farm production inputs. Temporary wetlands may increase production costs because of the nuisance and time loss involved in farming around the wetlands, as well as actual crop loss from excess water during wet years.

Another cost often related to wetlands is crop depredation by wildlife. Most severe depredation losses in North Dakota occur in years when crop harvest operations have been delayed by wet weather, when waterfowl and other migratory

Conclusions

1. Respondents' attitudes toward the reading level in the **North Dakota Farm Research Bimonthly Bulletin** were distinctly favorable.

2. Respondents' attitudes toward the number of pictures used in the bulletin suggests the bulletin contains about the right number of pictures.

3. About one-third of the respondents indicated their spouses were reading the **North Dakota Farm Research Bimonthly Bulletin**.

Recommendations

The writer recommends that the readers of the **North Dakota Farm Research Bimonthly Bulletin** be questioned about their attitudes toward a sample of articles in the bulletin. This may identify more specifically the attitudes of the readers.

birds may damage fields of swathed grain during their fall migration.

A pilot project to evaluate alternative uses of wetlands has been designed to provide data and experience for planning a more detailed study of wetland use, which would include social, economic, biological and ecological aspects. Such research is needed to provide information for decision making regarding choice of resource use among existing and potential alternatives.

Leading the project is the Department of Agricultural Economics. The departments of community and regional planning and zoology are also involved in the study.

The study will involve estimates of gross business volume generated by expenditures by hunters, increased revenues to farmers and the community that would result from drainage of wetlands, and costs of crop depredation losses to wildlife. Other factors that influence decisions to drain wetlands will also be identified.

A realistic approach is needed to most effectively utilize the land and related water resources in the pothole region of North Dakota. The first step in this effort is to determine the benefits and costs of wetlands to farmers and society in general.