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### Extension's Profiles in Progress for South Dakota: Annual Report 1970

Cooperative Extension Service  
*South Dakota State University*

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**Extension's**

# **Profiles in Progress**

**for  
South  
Dakota**

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**Cooperative Extension Service  
South Dakota State University  
U.S. Department of Agriculture**

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# Extension's Profiles in Progress for South Dakota



The South Dakota Extension Service has been cooperating with the people of the state for the last 55 years in developing and carrying out educational programs that best meet the needs of all people in agriculture, home economics, 4-H and youth.

As a part of South Dakota State University, Extension extends the land grant institution to the people of every county in the state through county Extension Service offices. The total facilities and personnel of SDSU are available through Extension to carry out educational programs or tackle problems that people in a community want solved.

The decade of the 60's are history. The Extension Service and people have made progress together. This Extension Profile in Progress tells of some of the jobs we have done together during the last year. Now we must look together into the 70's.

It will be through planning and conducting educational programs together that we will emerge 10 years hence with a stronger, more secure agriculture economy, home life that has met the challenge, and communities that are better places to live in. This will be no easy task because there are outside forces and competition which also influence South Dakota's destiny—thus adding complexities to our major problems.

We ask that the county Extension boards and the various special interest groups study the conditions and help develop Extension educational programs that will see us all through the 70's stronger people — community — state — and society.

Dean of Extension

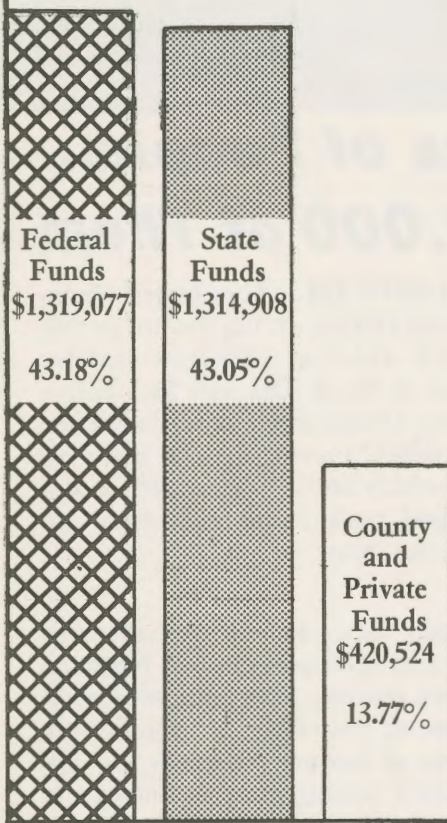
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# South Dakota Extension Service

**S. D. Extension Service  
1969-70 Funding**



The South Dakota Extension Service in agriculture, home economics and 4-H was created by Congress in 1914 through the Smith-Lever Act. This act provided federal funds to be matched by state sources for the purpose of "... disseminating useful and practical information in the broad fields of agriculture and home economics to the people of the United States."

The South Dakota Legislature in 1915 approved the establishment of the Extension Service as provided by the Smith-Lever Act of 1914 and authorized Boards of County Commissioners to conduct Extension work in cooperation with South Dakota State University. This has continued to the present.

In 1969-70 funds for the \$3,054,509 Extension budget came from these sources: 43.18% Federal Congress appropriations, 43.05% State Legislature appropriations, and 13.77% county appropriations by county commissioners.

This statewide educational service has 67 field offices serving every county and they are staffed by county agricultural agents and county home economics agents. They are backed up by statewide Extension specialists based on the South Dakota State University

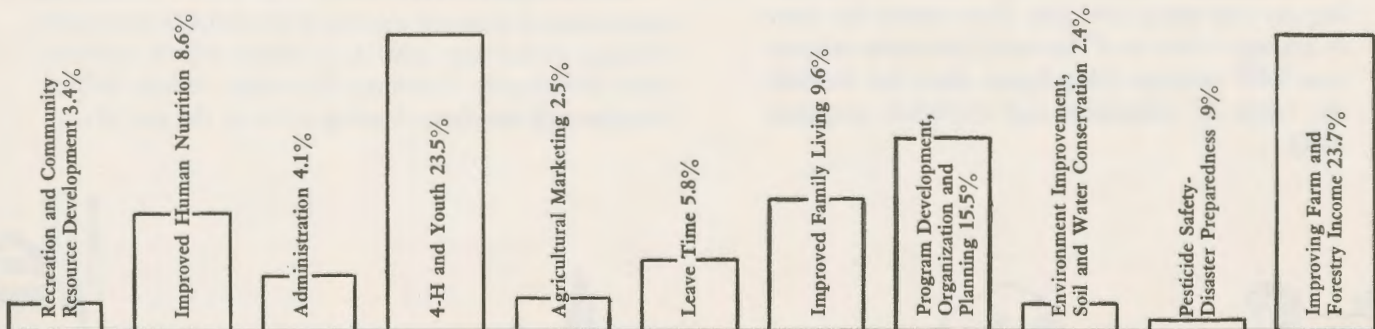
campus with research workers and teachers in their respective fields.

County Extension boards appointed by county commissioners and advisory boards of agricultural, home economics and 4-H leaders cooperate with Extension in its functions.

During the last year intensive educational programs were conducted on:

- All phases of agricultural production.
- Farm and ranch business management.
- Marketing.
- Natural resource conservation and development with emphasis on water and soils.
- Public policy and economic understanding.
- Farm and home ranch building and construction.
- Home management and finances.
- Home improvement and landscaping.
- Family nutrition.
- Family human relations.
- Clothing.
- Youth development through the 4-H programs.
- Community resources development.

**Per cent of Total Extension Time Spent on Various Areas of Work**







## ***It's Really a Profile on Progress of People... ...About 662,000 of Them***

Many activities of the South Dakota Extension Service provided information helpful to individual agricultural producers and business enterprises from mid-1969 to mid-1970. Extension's programs helped plow millions of dollars into the state's economy through economic expansion or increased economic potential, improved management, planning and technology.

**But not any less significant were Extension's intangible contributions toward the state's social and cultural development.**

Many persons will recall the dramatic victory against an armyworm invasion which threatened to wipe out millions of dollars in crops, but Extension also reached into the homes of low income families, urban communities and affected the lives of thousands of younger persons. It dealt with out-migration problems and attempted to illuminate the alternatives available to community leaders for improving cultural and service resources in an era of rapid change.

Professionally trained Extension personnel helped over 370,000 persons through personal consultations in all phases of Extension education. Over 20,000 workshops, seminars, meetings and tours attracted another 480,000 persons. Adding these to face-to-face consultations at fairs, achievement days and through personal letters and telephone conversations, contacts made during the year total 1,006,230. That means the yearly average "class load" for each Extension teacher was 5,409 persons (this figure does not include the work by volunteers and nutrition program aids).

**LIVESTOCK GROWTH.** The largest economic growth in South Dakota during the last decade occurred in livestock which in 1969 accounted for almost \$849 million of South Dakota's \$1.1 billion agricultural industry. Unlike many other industries, this state's "industrialists" provide the raw materials (feed and forage) which are then converted into a finished product (beef, pork, lamb, milk, dairy and poultry) all within the state.

This means that new knowledge, available through Extension education programs on fertilizer, crop varieties, insect control, plant disease control and crop management, contributes as significantly as does development of feeding programs and improvement of livestock management technology to expansion of the livestock industry.

The SDSU Experiment Station information and Extension educational efforts helped South Dakota producers increase cattle feeding operations by 46% in a five-year period, helped keep the state among the top five sheep producers in the nation and enabled 40% of the swine producers to use improved swine selection methods in 1969. Adjustments in the state's dairy industry to increase long range earning capacities also will have a favorable impact on incomes of those who manage the 200,000 dairy cows in South Dakota.

**BUSINESSES HELPED.** The state's businesses were assisted through a series of workshops and news releases explaining laws and trends which affected their livelihoods. Another Extension effort helped farmers and ranchers develop skills in the use of cap-



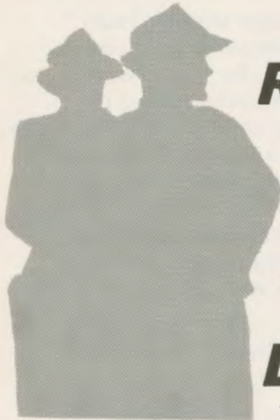


ital funds and credit arrangements to improve income. In still other areas, Extension specialists were used to train Community Action Personnel for the Office of Economic Opportunity and Extension program aides working with low income families on nutrition.

Since 1967, South Dakota Extension workers have been conducting community development seminars to assist regional leaders in planning and development of community resources. Dramatic results of this long range effort may not appear for years, but the goal is to provide information so that community leaders will understand and identify community problems and then work together on a regional basis instead of a local basis for recreational, economic and social development.

No monetary output really can be placed on the educational and character-building value of Extension programs for youths through 4-H and other activities or on many of the programs for homemakers.

From this brief review then, it can be seen that when the final tally is in on South Dakota Extension activities, the Extension story is ultimately a profile on the progress of people . . . almost 662,000 of them . . .



## **Rural Community and Resources Development**



At least 139 community development projects, representing slightly more than \$25 million in capital investment, 1,212 additional jobs and more than \$7 million in additional payrolls were participated in by Extension personnel last year.

Included were 56 projects begun in previous years and either completed or still in process in 1970.

### **Community Leadership Training**

The fourth multi-county area to receive community leadership training since this Extension program was begun three years ago, attracted 80 participants from nine counties in southeastern South Dakota in 1970. Since 1968, 250 community leaders, representing 37 counties, have participated in the series. Two more areas are included in plans for 1971.



**Community Development Seminar Airs Ideas . . .**





### To Find Alternatives to Community Decline . . .

The primary audience is community leaders invited to participate on the basis of their interest and involvement in community development activities. Discussion topics include: Apathy and resistance to change, industrial development, agriculture, state and local government, education, taxation, social-action processes and an introduction to multi-county cooperation.

Participants actively pursue projects aimed at promoting inter-community cooperation as well as developing each individual community. At the conclusion of the most recent program, the community leaders chose a steering committee to search for ways to cooperate in developing a nine-county area in eastern South Dakota. The group is pressing for an updating of community audits by all area towns as a tool to attract industry. This information will be filed with the state's Industrial Development and Expansion Agency. The group is cooperating with CENCOAD, a multi-county development organization sponsored by the American Lutheran Church at Augustana College. Plans also are underway to re-energize an existing but inactive multi-county industrial development corporation.

### Other Community Development Efforts

Extension has initiated or assisted in a wide variety of community development efforts throughout the state:

- The North Central Conservation Development Project was begun in Campbell and Walworth Counties to reduce sedimentation and reforest and beautify the shoreline of the Oahe Reservoir.
- Results of a community betterment questionnaire, distributed to Walworth County residents to determine community problems needing greatest attention, were made available to local government and development groups.
- Studies were conducted by a local organization formed to investigate the feasibility of a rural water distribution system in Dewey and Lincoln Counties.
- Assistance was provided through county Technical Action Panels for such diverse projects as: Providing vocational education for the Pierre area; Establishing a souvenir manufacturing industry for the Indian community at Milk's Camp; A cucumber growing project at Burke; Organization of a county planning committee in Douglas County; Promoting a cheese factory at Corsica; Organization of small watershed projects in Yankton County; and Organizing a food stamp program in Yankton County.

Additional projects were conducted to improve recreational facilities, improve services for the aged and to improve the general living environment of South Dakota communities.





## Workshops for Community Action Agency

Until the Extension Service contract with the Office of Economic Opportunity expired in mid-1970, 58 Community Action Agency board members received training designed by Extension. Community Action Agency workers received two days of training in public relations, community organization and Indian culture. The program and content has been adopted by the regional OEO office for wider use.

Three area conferences were held on aging in cooperation with the Governor's Committee on Aging and a statewide conference was held by Extension in cooperation with the Governor's Committee on the Status of Women.

## Rural Development

A major development during 1970 was the reorganization of rural development activities by the U. S. Department of Agriculture. The South Dakota Extension Service was responsible for organizing local and state committees for rural development. Dr. John T. Stone, dean of Extension in South Dakota, is chairman of the U.S.D.A. Committee for Rural Development, composed of members from U.S.D.A. agencies within the state.

Training programs in rural development were held for all U.S.D.A. personnel in the state. Many community development projects ranging from organizing community water systems to making industrial manpower surveys for prospective new industries are being undertaken by local leaders.

The State U.S.D.A. Rural Development Committee plans to work closely with the Governor's Rural Development Council.

## Understanding Contract Details

The Oahe Conservancy Sub-District was formed in South Dakota in 1960; since then, Extension has provided educational programs to assist potential irrigators in an understanding of the legal aspects of participating contracts. These educational services were again provided last year when two irrigation districts were later formed; again when the Oahe Conservancy Sub-District sought contract authorization, and again in December 1969 when the project irrigators accepted the contract which was offered.

Extension's educational objective in each of the cases was not to win acceptance or rejection for the issues, but to provide information on which voters could intelligently and objectively base decisions.



Water Is Great South Dakota Resource . . .

## Irrigation

In 1967 educational programs were begun on causes and treatment of incrustation of irrigation wells. Since then, irrigators have rejuvenated 35 wells, using the recommended sulfamic acid treatment on the clogged equipment.

A couple of farmers in counties having irrigation wells are taught to measure well discharge and draw-down and to use the acid treatment for incrustation. These persons in turn take the responsibility for helping other farmers in their respective counties solve this problem.

In 1969, with financial and equipment help from a number of conservancy sub-districts and irrigation equipment companies, a four-year plan for modernizing the James Valley Research and Extension Center near Redfield, S. D., was begun. When completed it will provide irrigators and potential irrigators with a demonstration area for modern conventional and automated gravity and sprinkler irrigation systems. This will enable farmers to evaluate a number of systems in one location.

## Rural Community Water Systems

Some communities have very poor water quality. Others find it difficult to locate sources of water. Since the Farmers Home Administration now makes loans for rural community water systems, the Extension Service is actively helping four communities to organize community water systems.

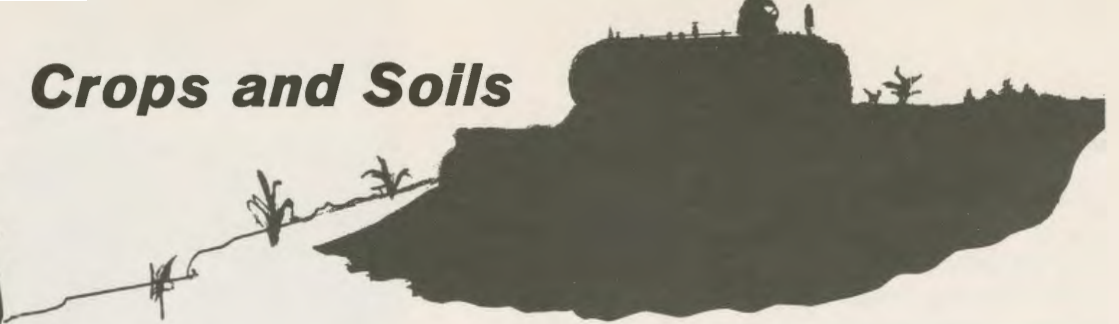
Surveys were taken and state and local publications, showing costs, legal requirements, local considerations and engineering factors, were prepared. Although these aspects were very essential, they were only educational tools. Organization for action came when the group decision was made to proceed with feasibility studies and funding efforts and a steering committee was elected to represent the group.

Someone needed to ask, "Do we proceed or don't we?" County agents were the ones who asked the question.





# Crops and Soils



A major goal of the Extension educational program in agronomy is to increase the agricultural income from crops by \$150 million annually without increasing crop acreages, applying up-to-date soil and crop management technology.

## Pasture Improvement Program

Last year, approximately 500 farmers and ranchers in eastern South Dakota attended shortcourses stressing pasture improvement and management; similar shortcourses on range management were conducted in the western counties.

Interseeding, initiated in Sanborn County in 1964, expanded to 24,000 acres in 30 counties by the spring of 1970. This practice has doubled pasture production in many cases. County agents discussed interseeding with over 700 producers last year.

Pasture fertilization, discussed this season with more than 2,000 farmers and ranchers, is practiced on almost 130,000 acres in 34 counties and continues to increase. Nitrogen fertilizer increased forage production in many instances by 50% during moist years when weeds are controlled. During less favorable years, fertilizer is by no means wasted—it simply remains in the soil for use the next year.

More than 3,300 farmers have inquired about weed control in pastures. Farmers, this season, sprayed more than 198,000 acres in 34 counties for weed control.

Although complete renovation is costly, many farmers have become convinced that the increased production from the more productive grasses is worth the expense. Almost 800 farmers discussed pasture renovation with county agents the last two years and about 18,000 acres in 22 counties have been renovated.

Other methods of improving pastures and ranges are being used on 36,000 acres in 8 counties with several counties using deferred grazing. One county seeded 500 acres of rangeland terraces to alfalfa.

It is increasingly evident that South Dakota farmers are becoming better managers, partly due to Extension education. Almost 700 farmers in 27 counties initiated rotation grazing in 1969 and 1970—almost 20,000 acres were cross-fenced and grazed rotationally in one county. Seasonal pasture rotations are used by approximately 1,100 producers in 25 counties. A western South Dakota cattle rancher learned the practical lesson of planting 140 acres of sudan-sorghum hybrid for a mid-summer pasture—he pastured over 200 head of cattle for six weeks. A north central South Dakota rancher produced 175 pounds of beef per acre by improving pasture management.

Extension also worked with approximately 550 ranchers on range and pasture improvement. Mechanical practices and/or controlled grazing systems are being applied to 30% of the 21.3 million acres of grazing land. A series of weekly range improvement and management meetings in nine western South Dakota counties showed 240 ranchers how production of usable forage could be increased by about a third.

**Interseeding to increase pasture production . . .**





## Crop Production

Planting highest yielding small grain varieties with the greatest "built-in" protection against failures is the first step in successful crop production. Approximately 90% of South Dakota's small grain crop was planted to varieties recommended by the SDSU Experiment Station and South Dakota Extension Service in 1969. The estimated income increase, as a result, was \$2 3/4 million.

During the last fiscal year, the Cooperative Extension Service assisted 6,882 farmers on selection of small grain varieties and 2,000 more on row crop variety selection.

Thirty-seven counties, in cooperation with county crop improvement associations, provided 281 crop variety demonstration plots for wheat, barley, oats, flax, rye, triticales, corn, sorghum and soybeans. Farmers, touring these summer plots, see first-hand which varieties are best adapted to their areas.

The Extension Service works closely with the South Dakota Crop Improvement Association on release of new seed varieties and certification. Kota oats, developed in South Dakota, was released to the association in 1969. About 3,100 acres were entered for certification. Primus II barley also was released in the spring of 1969. Almost 25,000 acres of all crops were certified in 1970 and approximately half a million acres of cropland was seeded to certified seed. Cougar rye was released in the fall of 1969 to county crop improvement associations. Similar releases were made in the spring of 1970 for Hercules durum, Linott flax, Otter oats, Neepawa hard red spring wheat, and Rampage, Wirth and Anoka soybeans.

Approximately 150 winter wheat growers attended winter wheat production clinics which presented research on tillage methods, residue management, chemical fallow, fertilizer use, weed control and variety recommendations.

The South Dakota Crop Improvement Association, after several attempts, secured a \$200,000 appropriation from the 1970 Legislature for new crop breeding facilities at South Dakota State University. The S.D. Wheat Commission contributed another \$100,000 for the structure.

## Weed Control—Impact of 2,4-D

Only recently much public attention has been focused on potential danger to our environment by the indiscriminate use of agri-chemicals; however, for years, Extension education programs for professional personnel, dealers, applicators and producers have

been instrumental in maintaining the wholesomeness of agricultural products by preventing unwise use of herbicides. Some 350 dealers and custom pesticide and herbicide applicators attended training meetings in 1969 in the southern half of the state.

2, 4-D is used extensively to control annual broad-leaved weeds which infest most croplands. The chemical also has been instrumental in controlling and eradicating perennial noxious weeds which infest 2.3 million acres on South Dakota farms.

The high rate of usage and apparent safety indicates the important role 2, 4-D plays in South Dakota weed control programs and supports the accuracy of available information concerning the chemical. It also verifies the effectiveness of Extension education programs.

## Soil Fertility

Through a variety of educational approaches, the Extension Service has demonstrated the merits of increased soil fertilization. Last year the Extension Service conducted 34 fertilizer demonstrations in 13 counties where there are fertility problems. They assisted over 8,000 small grain and forage producers with soil fertility problems. The fertilizer use was increased by 66 million pounds. Agronomists believe that farmers could profitably use 5 to 6 times more fertilizer.

Fertilizer was applied to more than 575,000 acres of corn in 30 counties, 8,500 acres of soybeans in 7 counties and 72,000 acres of sorghum in 17 counties this year. The 15% fertilizer use increase over the previous year represents a net crop income increase to this state of approximately \$3.7 million.

Fifty-three thousand acres of the more than 2 million acres of alfalfa harvested for forage in South Dakota is irrigated, however yields are relatively low. Extension demonstrated in 1969-70 that alfalfa yields on both irrigated and dryland acres could be greatly increased through proper fertilization.

Alfalfa, produced on fertilizer treatment demonstration fields on the sub-irrigated Missouri bottomlands of southern Clay and Yankton counties, increased net yield returns \$8 to \$13 per acre. There also was a dramatic increase in the value of alfalfa protein as livestock feed. Similar increases occurred on fields in Hughes, Charles Mix and Minnehaha Counties, where soils tested low in phosphorus. As much as \$80 more protein per acre was produced during the total growing season under some of the fertilizer treatments.



## Plant Disease Clinic

An Extension plant pathologist, through the SDSU Plant Disease Clinic, provides urban and rural homeowners, farmers, institutions, golf courses and others with disease identification and control assistance for shade trees, shelterbelts, ornamental shrubs, flowers, fruits, vegetables and home plants.

In 1969 diagnoses were provided by correspondence on 578 plant specimens, and an additional 175 disease diagnoses were made during home and field visits.

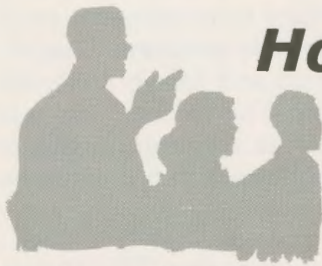
Fifty-eight of the 82 elm tree specimens received for Dutch Elm Disease diagnosis at the Plant Disease Clinic last year had the disease. The number of diseased elm trees increased markedly and probably will increase even more in the next two years. Simply to remove dead trees could become a financial burden for most communities.

Seed barley infested with loose smut can be costly. Thus 371 barley seed specimens were given the embryo test to determine the per cent of loose smut infected seed. Loose smut, a floral infecting fungus disease which infects the developing seed embryo, can only be determined by a laboratory test.



SDSU Laboratory Diagnoses Dutch Elm Disease . . .

A grower, submitting his barley to the embryo smut test during winter months, has two alternatives should he discover his seed stock has too much smut—he can look for a different seed source having no or a tolerable level of smut infection or he can treat his seed with a systemic fungicide.



## Horticulture and Forestry

### Landscape Planning

Home grounds landscape planning is a popular program in South Dakota. This year, workshops were carried out in 12 counties, providing in-depth landscaping assistance for 110 homeowners. Not only did the workshops provide opportunities for homeowners to understand landscaping principles, selection, establishment and care of landscape plant materials—each participant was helped in preparing a landscape design and a landscape plant list for his individual home grounds.

Should the ideas incorporated in the landscape plans be carried to completion, it could mean an increased home valuation of approximately \$165,000 and involve an estimated \$50,000 in nursery stock sales and services. Additional landscaping assistance was provided through office consultations, literature, meetings, news items and completion of landscape plans by correspondence.

### Improving Survival of Conifer Seedlings

Shelterbelts in South Dakota need more conifer trees to increase longevity and efficiency of wind-



breaks. Evergreen tree plantings have increased from about 1/2 million seedlings in windbreak plantings in 1966 to over 1 million seedlings in 1970.

Poor initial survival of young evergreen seedlings has held down the number of evergreens used in South Dakota windbreaks, although the advantages of year-round foliage on conifers over broadleaved trees are readily apparent. Increased evergreen plantings not only protect buildings and livestock from winter winds, but provide much needed winter habitat for upland game.

Extension and the State Department of Forestry conducted one-day conifer care schools at eight locations in the state to teach cultural procedures necessary for higher nursery stock survival. Approximately 225 persons involved in tree planting in South Dakota attended, including tree planting crews and technicians, farmers and ranchers.

A "Plant and Forget" program, involving nurse crops between tree rows and first-year herbicides in the row is under study. The program may provide the basic needs of newly planted evergreens in a much more convenient method.



## Conifer Potting


Four-H members, involved in the forestry project, initiated a conifer potting program that is increasing the number of evergreens in South Dakota wind-breaks. Previously landowners used only the bare root stock. Potting evergreens in the spring and allowing them to establish rooting systems under carefully controlled conditions until next spring when they are then planted in the field increases chances for survival greatly.

Begun on a pilot basis in a few counties three years ago, the potting program has expanded from evergreens used in shelterbelt planting to growing ornamental evergreens and trees. The potting program has created interest in raising trees and shrubbery from seed and from young seedling stock. A back yard nursery program may be in the offing.

Demand for the potted stock continues to grow. More than 110,000 potted evergreens will be used in 1971, according to projections of tree planting districts, even though initial cost of potted stock is five times that of bare root material.



Cooperating with SCS and State Game, Fish and Parks Department on Conifer Potting . . .



## ***Insect Pests and Pesticide Safe Use***



Extension educational efforts leading to early detection of extensive armyworm and greenbug infestations, cooperation by mass media and quick appropriate action by farm producers, commercial sprayers and chemical companies **saved South Dakota farmers over \$13.5 million in 1969.**

Control measures recommended by Extension during the same period for corn rootworm **resulted in another \$8 million savings from potential crop losses.** An estimated 90% of the corn growers used cultural and/or chemical control measures in 1969. Rootworm control measures were applied on an estimated 1 million acres of corn in 1970 and another million acres were under crop rotation.

Weekly surveys conducted on all crops during the growing seasons by Extension personnel put producers one step ahead of greenbug, armyworm and other infestations. This is part of Extension's early detection system and is the first phase of their plant parasite control program. Once the massive armyworm infes-

tation was discovered on July 19, the ensuing action which saved farmers \$13 million went something like this:

- (1) Information on the infestation was immediately released through all news media via newsletter, news releases, radio tapes, television programs and wire services.
- (2) Intensive surveys were initiated and new areas of potential or actual infestations were delineated.
- (3) Extension coordinated efforts to alleviate temporary shortages of insecticides in some areas (insecticides were shipped from as distant as Arizona and Georgia to fill the demand).
- (4) Commercial sprayers immediately were informed by Extension personnel as to areas where their services were needed.
- (5) Farmers were advised through news media and personal contact on specific recommendations for their crops and situations. A total of 10,184 producers were directly assisted on the armyworm problem by Extension.



A repeat of the 1969 procedure for armyworms in June of 1970 saved another \$1 million.

The early detection approach also prevented approximately \$½ million in potential crop losses due to greenbugs when producers were warned early enough to spray 50,000 infested acres.

Much of the credit for making this Extension educational effort successful is due to cooperation by the mass media.

Extension assisted 29,687 producers with insect problems. Insects encountered according to frequency of occurrence include armyworms, flies, lice, cattle grubs, corn rootworms, grasshoppers, aphids, cutworms, mosquitoes, tree insects, grain insects and wireworms. In addition, Extension assisted with 11,105 insect problems on home, garden or grounds.

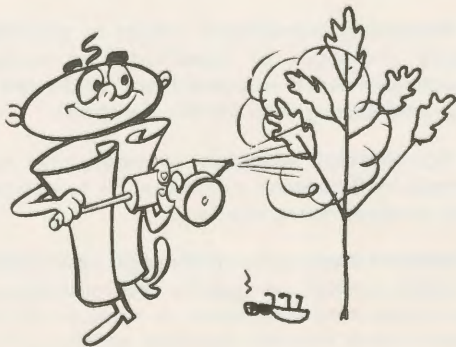
### Commercial Pesticide Information

A series of in-depth short courses on control recommendations, changes in registry, safety and legal aspects of pesticide use were provided 450 aerial and ground applicators in 1970. The sessions were conducted at Sioux Falls, Plankinton, Philip and Huron.

Fact sheets and the "Dairymen's Insecticide Use Chart" were revised to assist milk producers and processors to understand the proper use of pesticides in dairy production and to avoid pesticide residues in milk products.

### Pest Control for Low Readability Group

South Dakota was the first state in the nation to incorporate pest control education into its Expanded Foods and Nutrition Program for low income families. The educational material includes a series of 10 illustrated pest control circulars. The Expanded Foods and Nutrition Program assistants indicated an urgent need for this type of educational material. Each circular has drawings which identify household pest and presents cartoon panels telling what to do about it. Each publication has a section on safe pesticide use. Training sessions conducted for the program assistants included tips on instructing clients to handle home pest problems, sanitation, food protection and how to use pesticides safely and economically.



Armyworm, Found in Time to Warn Others . . .

The University of Wisconsin Extension Service is translating one of the safety pamphlets into Spanish.

### Poultry Pesticide Chart

The reception given a colored insecticide use chart, published by the South Dakota Extension Service demonstrates producers' concerns over possible pesticide residues in eggs and poultry.

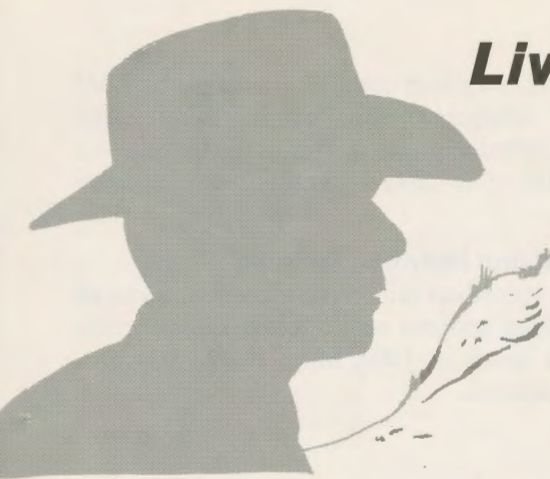
The insecticide use chart was reproduced and distributed nationwide during 1969-70. The American Poultry Hatchery Federation (A.P.H.F.) used it in the January issue of their house organ to hatcherymen and producers along with a story entitled, "How You Can Minimize Condemnation Losses from Pesticide Residue in Eggs and Poultry," and the Institute of American Poultry Industries and A.P.H.F. offered the chart on card stock for a small fee to processors, hatcherymen and flock owners. In a month the institute reported that 86 firms ordered 8,170 posters and were asking for more—the initial supply had run out. The Nebraska Poultry Improvement Association also reproduced the chart in color card stock and made extra copies available to their mailing list. The single largest order received by the Extension Service for the chart was 2,000 copies from Swanson's (Campbell Soup Co.) in Minnesota. They distributed them to South Dakota and western Minnesota producers who would later sell old hens to them.

### Pesticide Misuse:

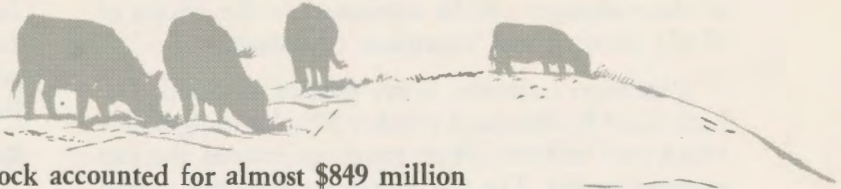
A young boy from western South Dakota this spring swallowed an insecticide containing Toxaphene and died within 24 hours. Contributing factors may have been time and distance in getting first-aid. Continued attempts will be made to interest medical groups and persons in western South Dakota to implement a qualified poison control center.



# Livestock and Poultry



Livestock accounted for almost \$849 million of the state's \$1.1 billion agriculture industry in 1969. Growth in the livestock industry came about through improved prices, some expansion in beef cow numbers and increased feeding of beef calves.



South Dakota beef cows numbered more than 1.7 million head in 1969 and about  $\frac{2}{3}$  million fed cattle were marketed. A large percentage of the feeding over the last five years has occurred in the west where most feed grains are produced. But a significant portion of the 46% increase in cattle feeding operations over the last 5 years has occurred in the west where 21.3 million acres of land is used for grazing. About 5.2 million acres is devoted to crops in the west.

Extension has been showing how livestock income can be increased through performance testing programs, improved nutrition practices (including use of high moisture corn, high roughage rations on steer calves and better use of silage) and application of tried and tested range improvement and management practices.

## Market Outlook Presentation

A live, two-hour evening educational television special on "Livestock Market Outlook and Cattle Feeding," conducted by Extension over a 15-county area of eastern South Dakota in late September 1969, produced many favorable responses from producers and requests for more programs. Printed educational materials and worksheets were provided by county agents in advance, so that farmer viewers could work out feeding budgets during or after the program. A TV-telephone hookup was used to answer questions from viewing producers.

It is difficult to estimate the true number of viewers who benefitted from the show, because comments indicate many producers were watching from informal gatherings. Approximately 750 producers participated in formally structured learning groups. This is almost as many participants as was registered in all community outlook meetings where the specialists appeared in person.

A similar series of 11 cattle feeding outlook meetings was conducted in eastern South Dakota in the fall for 805 feeders (much of the same information as on the TV special). In addition to price outlook, producers were shown how to calculate cattle feeding

prospects using a budgeting worksheet to estimate payable prices for feeder cattle and to examine the alternative of wintering feeder calves for spring or fall sale. Research on MGA feed additives for heifers, on storing and feeding high moisture corn and on "backgrounding" calves to 700-pound selling weights also was discussed.

A series of feeder cattle marketing and management meetings, conducted by Extension specialists and county agents in western South Dakota in the early fall of 1969, attracted 300 ranchers. Extension personnel analyzed feeder market price trends for the fall, winter and spring months, based on an evaluation of economic conditions and supply factors.

About 5,000 copies of an eight-page "Cattle Feeders' Planning Guide and Worksheets" also were distributed. Extension also participated in the annual Beef Field Day at SDSU in October, which attracted 600 producers interested in beef research.

## Performance Records

South Dakota had one performance testing station in 1969 with 110 bull calves on test. In 1970, the number of testing stations grew to seven and bull calves on test grew to 754. Although less than 5% of its beef cattle are actively enrolled in any organized performance testing program, South Dakota, with 60,000 records processed through state, breed and commercial programs, is one of the leading states in number of cattle on test.

The testing program will be expanded to include sire progeny records, cow production summaries and additional herd records to permit comparison of crossbreeding results on a within-herd basis. The Central Bull Testing Program plans to expand to at least eight stations testing 1,400 bulls on 140-day post-weaning rate of gain.

## Improved Feeding Programs

In 1969, 749,000 acres of corn were harvested for silage in South Dakota. That represents almost three times the yearly average for the 1949-58 decade. Sorghum silage tripled and feedlots increased to 9,700 in



1968, a 57% increase from a decade ago. A great share of these changes can be attributed to the efforts of SDSU research and Extension education.

Extension estimates heifer feeding in South Dakota could be increased another 50% by using a new MGA feed additive. High roughage rations also can increase profits. The 657 producers who got started on feeding programs of high roughage rations for calves increased the state's livestock income by \$1.5 million this year. Extension passed on high moisture

corn and grain sorghum silage knowledge to 1,022 farmers and ranchers. With this increased silage handling knowledge came a dramatic increase in silage use—430 new silage storage facilities were built in 1969.

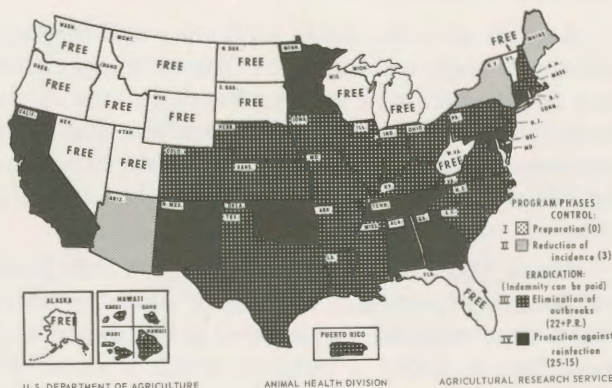
### Reproduction and Nutrition Training

Extension specialists initiated a three-year series of in-depth training sessions on beef cow reproduction and nutrition needs in 1969. More than 7,000 producers were assisted.

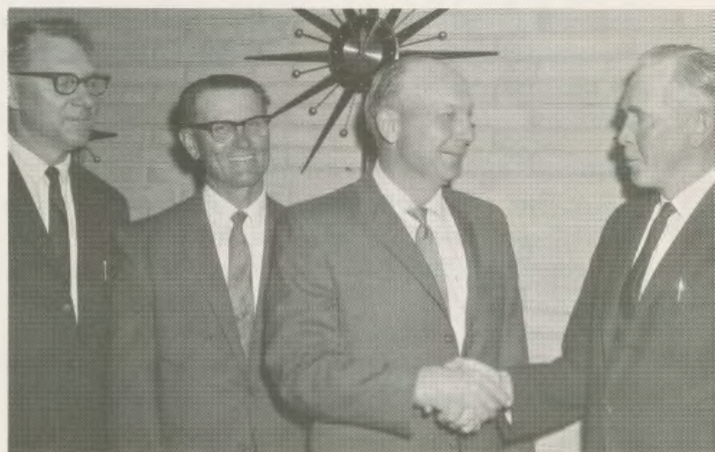
## Cooperative State-Federal



# Hog Cholera Eradication Program July 1, 1970



The S. D. Swine Improvement Association reached their intended goal of nationwide cholera free status two years sooner than they had anticipated when they set the target date in 1962.



### Hog Cholera Eradication Committee Realizes Cholera Free Goal . . .

Receipt on July 14, 1970, of the document which certified South Dakota to be swine cholera free, signed by Secretary of Agriculture Clifford M. Harden, was accomplished through strong leadership of the S. D. Hog Cholera Eradication Committee, which included representation of swine producer groups, the organizational effort and teamwork of the South Dakota Extension Service, SDSU Diagnostic Laboratory, the S. D. Livestock Sanitary Board and closely allied businesses, practicing veterinarians and the USDA's Agriculture Research Service.

### Efforts to Build Hog Industry

Approximately 3 million hogs produced annually in South Dakota represent a cash farm income of well over \$140 million. Because of the excellent potential for increasing hog numbers in South Dakota, the Extension education work on swine has focused on increasing feeder pig production on family size farms.

This increased emphasis on quality feeder pig production could transform South Dakota from an import to an export situation. South Dakota has been importing between 150,000 to 200,000 feeder pigs annually.



Hog producers in the state must increase hog production another million head during the next 10 years in order to maintain South Dakota's position as the ninth ranked swine producing state. This 3 to 5% yearly increase in swine production will make use of the normal surplus of feed grain production for the state and keep pace with national population increases.

Three hundred pig producers attended six area schools by Extension on selection and breeding, buildings and equipment and management, feeding and nutrition. An additional 1,730 potential feeder pig producers sought information from Extension personnel.

Although a few highly specialized feeder pig operations are in the planning stages, money can still be made in diversified operations. The production of 60 to 110 litters is a good source of income for the family size operation.

Public markets placed emphasis on special feeder pig sales in South Dakota during 1969-70.



## Sheep

Though South Dakota sheep numbers have been decreasing, the state with 1.24 million sheep and lambs valued at \$29.3 million in 1969, remains one of the top five sheep producing states. More than 11 million pounds of wool is produced.

In an effort to retain replacement ewes in South Dakota, a listing of dealers and sheep salesmen from the public livestock yards was prepared for Extension distribution to sheep producers. South Dakota has an excellent source of high quality Western breeding ewes—yearlings as well as older ewes—which are being exported to other states instead of used to build up the state's sheep industry.

Over 300 sheep producers attended six area field days which dealt with research and developments in the sheep industry. Extension personnel worked with 1,600 individual sheep producers.



## Dairy

Dairymen were faced with new quality and public health control standards, which have an effect on both the consumer and the 8,500 producers of manufacturing milk.

Enactment by the South Dakota Legislature of a new law (effective Sept. 8, 1969) placed minimum requirements on dairy facilities and established recommended methods of operation. Fieldmen, licensed by the State Department of Agriculture, are responsible for carrying out certification inspections.

Extension used the mass media, tours, processor, dairy plant personnel and producer meetings to carry out the educational phase of the project. Almost 2,000 producers were reached in this fashion. Laboratory and workshop sessions were conducted for 88 dairy processing plant personnel trained for farm field service and a one-day laboratory and testing school was conducted for 59 plant-laboratory personnel. Approximately 8,500 Extension fact sheets on "Farm Standards for the Production of Manufacturing Milk" were distributed.

As a result, 50% of the producers were able to qualify under the new law, meeting the standards to sell manufacturing milk in 1970. Another 25% of the producers are in the process of making improvements and the remainder will need more time.

## Dairy Herd Improvement

Producers, enrolled in a reorganized dairy herd improvement program, incorporated in 1970 to form the South Dakota Dairy Herd Improvement Association. Twenty-two county or area DHI associations have membership in the new state association.

The purpose of the South Dakota DHI Association is to carry out maintenance functions of the dairy improvement program and to act as liaison with the South Dakota Extension Service and the national association in development of the program. This enables the Extension Service to concentrate on educational programs, freeing Extension personnel from some of the record-keeping chores.

DHI improvement programs have increased the number of dairy cows enrolled in the record system from 8,050 head four years ago to 17,700 in 1970.



## Poultry

An expanded flock record program, raising pheasants for release and coordination of poultry people into one organization are some of the highlights of the year in poultry.

## Flock Records

Records from the 41 flocks which completed the production cycle for the year of July 1969 through June 1970 indicate an income per hen housed of \$4.02 over feed costs. The 41 producers sold almost \$2 million worth of eggs—that's an average of \$46,450 per flock.



The producers averaged 14.3 months of lay with 6,661 birds per flock (compared to the average small farm flock of 11 or 12 months of laying). Mortality averaged 16.8% or 1.17% per month. The hens averaged 275.5 eggs (compared to the national average of 220 eggs) and converted 4.02 pounds of feed to a dozen eggs (generally the average has been 4.5 to 5 pounds). The average feed cost per dozen was 14.1 cents and the average feed cost per ton was \$63.51. The producers sold 86.42% grade A eggs and received 33.79 cents per dozen for all eggs sold.

Field follow-ups by Extension indicate that monthly flock record reports serve many purposes: Individual flock owners use them to compare their progress with other flock owners and to improve their management shortcomings; hatcherymen, Extension personnel and vocational agricultural instructors find them helpful as educational materials; and poultrymen use them to assure lending agencies that they have a respectable income. One flock owner with 12,000 birds was alerted to a problem of small egg size through the reports. An Extension worker in Iowa wrote that they had discontinued their flock record program and were using South Dakota reports in their work.

### **Pheasant Rearing for Release**

Raising pheasants for release has become a popular project in South Dakota to help improve the declining wild pheasant population. During the 1969 season, 145 pheasant projects in the state started 9,985 birds and released 8,050 of which 2,863 were banded by the State Game, Fish and Parks Department. The State Penitentiary, Game, Fish and Parks Department and SDSU cooperated in a project where 2,721 pheasants were started and 2,088 were released. Five FFA chapters and many individuals also raised and released pheasants during the year.

The release program may have been one of the contributing factors that has increased the 1970 South Dakota spring pheasant count. An increase in bird numbers should bring in more out-of-state hunters.

### **Industry Reorganization**

In February, the S. D. Poultry Improvement Association adopted revised organizational by-laws to include hatcherymen, egg producers, pullet producers, poultry breeders and allied industry men. Hatcherymen, flock owners, allied industry, State University and animal health regulatory officials have active positions on the board of directors. This move should greatly coordinate and strengthen all phases of the \$30 million poultry industry.

## **Continuing Education For Veterinarians**



The "half-life" of veterinary knowledge is 10 years. The veterinarian that earned his veterinary degree 10 years ago is faced with the fact that 50% of the storehouse of information with which he had armed himself is no longer relevant in today's animal health programs.

The continuing education program for veterinarians, initiated by the South Dakota Extension Service and the Department of Veterinary Science at SDSU, is striving to close the knowledge gap and update South Dakota veterinarians, to keep them abreast of the advances in veterinary medicine.

Last year, 401 veterinarians attended continuing education training covering these topics: Laboratory diagnostician procedures; bovine reproduction; diseases of feedlot cattle; diseases of the young pig; and legal and economics aspects of practice.

Leading authorities from New York, Georgia, Colorado, Wisconsin, Iowa, Nebraska and South Dakota were recruited to share their professional knowledge and experience with South Dakota veterinarians.

All sessions have been self-sustaining with registration fees ranging from \$5 to \$35.

Response from veterinarians has been very gratifying. Typical remarks from written meeting critiques include: "One of the best meetings I have ever attended"; "Maximum utilization made of time"; "No monkeying around"; and "Sessions are well organized and material presented in an interesting manner."

Continuing education for veterinarians is an important part of Extension's overall planning to improve and protect the health of the state's largest source of income.





# Agricultural Engineering



## Livestock Housing and Equipment

Most farm buildings are obsolete or inadequate for today's automated and labor-saving agriculture. The Extension Service has been very active in planning modern agricultural structures in a field where there is little other professional help.

During the year, 815 beef producers were helped in planning animal housing, feed lots, equipment installation and waste handling systems.

In dairying, the stress has been on improved free-stall housing, mechanical feeding under roof, mechanical and liquid manure handling systems and functional layouts for more efficient dairy facilities. Assistance was directed to 334 dairymen involved in new construction projects or remodeling.

The laws requiring stricter handling of manufacturing milk on the farm has brought about much of the impetus in milk house remodeling. The Extension Service and State Department of Agriculture personnel helped 343 producers to plan new milk rooms and 680 dairy producers to bring existing milk houses up-to-date. Extension tours and meetings provided an additional 210 dairymen with information to make decisions on improving buildings and equipment.

Swine producers spent \$4.9 million on new construction and remodeling of farrowing, nursery, finishing and sow herd buildings (plus related equipment).

Labor for handling hogs, feeding, watering and manure removal could be reduced a third more through proper planning and updated facilities. Good management and adequate housing information, presently available through Extension, could reduce pig losses by 15 to 20%.

Almost 700 swine producers took advantage of Extension's agricultural engineering information on 294 new units and 392 remodeled farrowing units.

Three hundred and eighty producers were helped in planning new or remodeled finishing units, designed to improve hog feeding efficiency and daily gain. Some 216 swine producers received help in planning liquid manure handling systems.

## Help for Builders of Farm Facilities

Because demands for improved livestock housing have become more than Extension can handle by itself, the South Dakota Extension Service provided training on swine, beef and dairy housing, milking facilities and farm service buildings to 95 lumber dealers attending the S. D. Lumbermen's Association convention in Sioux Falls. As a result of the Extension shortcourse, 1,817 requests for plans and planning books on agricultural buildings, were supplied.

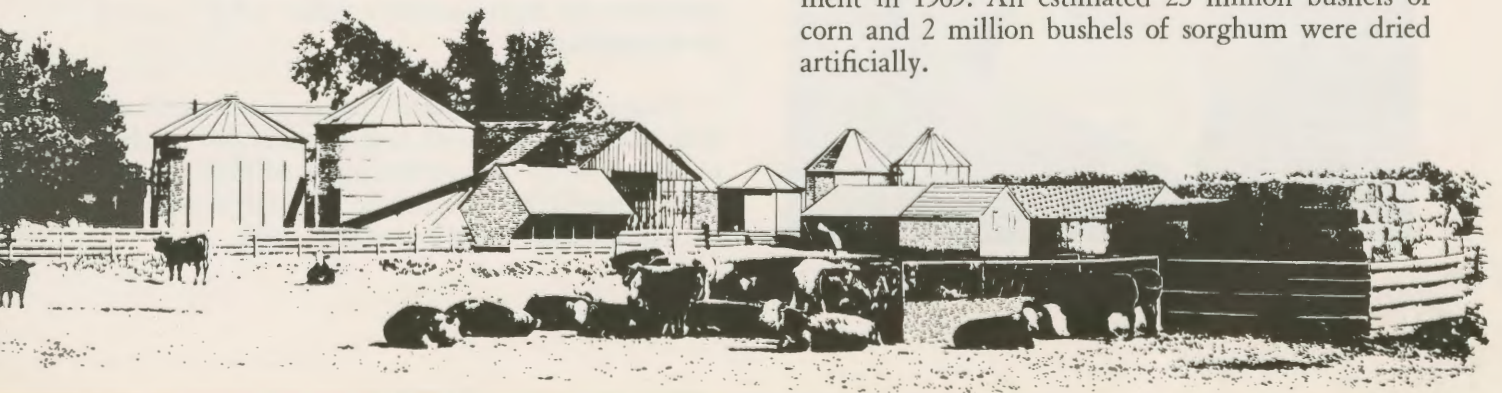
## Crop Harvest and Storage Facilities

Four hundred and fifty-one new silos—representing new storage and mechanized feed handling equipment for approximately 298,000 tons of forage—were constructed in South Dakota in 1969.

Extension, concerned about helping farmers to reduce the 15 to 20% loss of forage feed through inefficient harvesting, storage and handling, provided information on high-moisture corn storage to 1,022 farmers and assisted another 1,329 producers with small grain and grass haylage problems.

## Crop Drying

More than 1,000 farm operators were provided crop drying information. South Dakota farm operators invested an estimated \$6.9 million in corn drying equipment and \$600,000 in sorghum drying equipment in 1969. An estimated 23 million bushels of corn and 2 million bushels of sorghum were dried artificially.





## Farm Safety Course

Fatal farm accidents in South Dakota dropped from 53 in 1966 to 36 in 1969 with tractor upset fatalities reduced from 16 per cent to four in that period.

More than 1,100 boys and girls, 14 and 15 years old, successfully completed Extension's 20- to 24-hour farm safety training program in 1970. The farm safety course provided the training needed for farm youth under 16 years old to be exempted from the U. S. Department of Labor's Hazardous Occupation Order. Otherwise, the youths would be prohibited from doing many common farm jobs.

In almost all counties, parents, 4-H leaders and other boys and girls sat in on the training sessions involving Extension personnel and guest speakers from the fields of law enforcement, medicine, insurance and agriculture.

The farm safety education program is not only an attempt to reduce farm tragedies, it also provides the way for young, qualified persons to obtain jobs. In doing so it has helped alleviate South Dakota's agricultural labor shortage. As many as 95% of the boys and girls who successfully completed the training requirements and received certificates obtained jobs in some of the 59 counties actively participating.



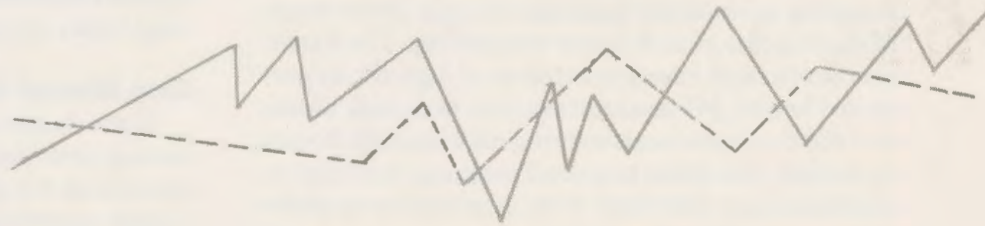
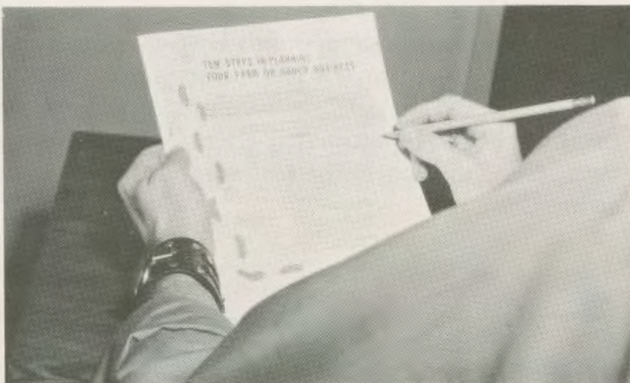
In addition, approximately 800 4-H members received farm safety instruction at Camp Lakodia during regular 4-H camping periods.

Almost 2,000 persons were assisted through Extension educational efforts on emergency disaster preparedness, stressing winter emergencies.

## Agricultural Economics

### Farm Management Education

Farmers and ranchers, seeking insights into farm planning, have plowed an estimated \$13 million additional spendable net farm income into the South Dakota economy since the Extension Service initiated the "Ten Steps in Planning Your Farm or Ranch Business" educational program in 1965.



By capitalizing on present knowledge and technology in farm planning, annual South Dakota net farm income could be increased another \$30 million in the next decade, according to a sampling of the results by participants—\$1.5 million just in 1970.

This last year, county agents or area farm management agents conducted a series of "Ten Steps" training sessions on farm planning procedures and economic principles with 970 farmers. The farmers were helped to determine on the basis of their individual operations how to make their unit or individual enterprise the most profitable under today's agricultural conditions.

County agents, area farm management agents and state specialists also work with farmers and ranchers on an individual basis on management planning problems. Over 11,000 copies of the "Ten Steps" reference circular have been distributed since 1965.



A look at the growth and future prospects of South Dakota grain elevators was provided in a new SDSU bulletin, entitled, "Grain Elevators of South Dakota and Associated Farm Supply Businesses; Some Factors Affecting Their Growth and Future Prospects."

### Management Aid for Cooperatives

Extension workshops enabled managers and directors of cooperative firms to increase net earnings by an estimated \$9 million annually over the last seven years—that's a whopping \$63 million added to the state's economy!

The Extension Service provided managers and directors, representing nearly 200 cooperatives, with management training and assistance during the seven-year period. The marketing economists conducted the area workshops, co-sponsored by the South Dakota Association of Cooperatives and the Omaha Bank for Cooperatives.

The net earnings of 171 of the participating cooperatives increased by an average of \$53,000 (the other cooperatives either merged or discontinued business). The educational effort has lowered the need for farmer-owners to plow more investment capital into their enterprises and provided better service, according to follow-up surveys.

Factors which enabled the cooperatives to increase net earnings were: A business-like approach to credit policies, resulting in more available working capital; better planning and use of financial statements, leading to increased gross margins; and addition of better qualified personnel, leading to increased sales per employee and a reduction of employee turnover and training expense.

Most cooperatives are attempting to obtain better qualified employees and to upgrade present employees by training and adopting modern employee policies, including better pay, fringe benefits and training programs. As a result of increased employee efficiency and motivation, the firms reported an annual average increase in earnings of \$9,500.



### Grain Marketing and Transportation

South Dakota agriculture could be \$19 million richer by 1971 if the state's grain and farm supply industries could apply known transportation efficiencies and management techniques. By 1980 the savings from these efficiencies could run as high as \$28 million.

The South Dakota Extension Service is providing the management training needed for the increases to become realities.

For example, farm supply companies will save \$3 million annually by reducing free time credit and by charging for the credit service, primarily as a result of Extension's management meetings with 865 grain elevator and farm supply managers in the state.

Extension's educational efforts are causing both producers and grain elevator managers to become aware of the opportunities and use of grain futures as a marketing tool for profit.





Many of the cooperatives have merged at least once, usually with the assistance of Extension marketing economists, to obtain more growth partly from the economics offered, partly for increased business and partly to offer new services and to provide better patron and employee relations.

Response to the seminars has been enthusiastic, particularly for continuation of the portions on the duties of managers and directors and on planning and financing.

### **Agricultural Policy Activities**

The Extension Services of South Dakota, Nebraska, Montana, North Dakota and Wyoming have produced a series of five half-hour color films on agricultural policy and farm programs. The films were developed by the Great Plains Task Force on Agricultural Policy to provide information about farm problems and policy alternatives specifically pertinent to Great Plains farmers and ranchers. A series of six pamphlets, designed to supplement information presented in the films, also was prepared and distributed. Over 6,400 farm operators were provided information or decision-making counsel on specific government farm programs last year by county agents and Extension specialists.

### **Assisting Farm Marketing Firms**

A study analysis by an Extension Service marketing specialist and the head of the Dairy Science Department at SDSU helped dairy producers to increase potential long run earning capacities by an estimated \$1 million per year. This study resulted in the consolidation of five dairy cooperatives which will be making short term adjustments in order to eventually gain long range advantages of consolidation.

The dairy processing cooperative plants requested assistance in 1968 and 1969 from SDSU to help find alternatives for meeting increased competitive pressures from dairy plants in neighboring states. Rising costs, reduced raw product supplies, technical innovations and the need for greater bargaining power in the sales of finished products and in the procurement of manufacturing supplies spurred the dairy processors to seek ways to improve their competitive position. The adjustments they make will have an impact on the incomes of the over 3,000 producer-members selling milk to these dairy plants.

Thirteen other groups of farm supply, marketing and service firms were assisted by Extension marketing economists in exploring the feasibility of merger, consolidation or unification of operations.

County Extension agents helped 1,575 farmers and ranchers in the use of futures contracts and other contractual agreements in the marketing of crops and

livestock; provided information and assistance to 350 marketing firms in the purchasing, processing and selling of agricultural products; assisted with technical production and marketing information for 157 feed firms, 319 fertilizer firms, 225 seed dealers and distributors and 416 chemical handlers and suppliers; and conducted training meetings for over 1,700 producers and leaders on principles, concepts and influences of bargaining power on agricultural prices. Home economics agents provided information about food prices and pricing to 1,687 homemakers and consumers.

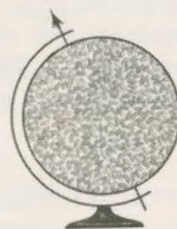
### **Truth in Lending**

Responding to an urgent need of South Dakota merchants for a quick, easy-to-understand course on the new Truth in Lending Law (effective July 1, 1969), an Extension economist provided a layman's interpretation of the law, including workable examples. Cooperating with the South Dakota Association of Cooperatives, a series of workshops were held in Huron, Winner, Sioux Falls, Aberdeen and Lemmon. Four hundred and sixty-two business managers and attorneys were provided urgently needed "Truth in Lending" information. Three regional cooperatives and Fred B. Causey, attorney in charge of the Kansas City office of the Federal Trade Commission, assisted.

**It was as a result of feed-back at the meetings that part of the law was modified to enable South Dakota businesses to continue cash discounts.**

Eight thousand fact sheets explaining the law were distributed.

### **Foreign Trade in Farm Products**



One-tenth of the state's \$1.1 billion annual cash farm income now comes from export sales of wheat, feed grains, soybeans, flax and livestock to foreign countries. At the same time, imports of beef, pork and lamb that compete with our production cause considerable concern to many South Dakota producers. This means that foreign trade is of vital interest to the state's agricultural economy.

A series of meetings in 10 north central South Dakota counties was held by Extension economists to help producers better understand foreign trade.



# 4-H Clubs and Young People



South Dakota 4-H membership in 1970 grew to almost 25,000. The record enrollment reflects new variety in 4-H promotion, a more flexible organizational structure, new and challenging project areas and additional emphasis on leadership development.

**The 4-H profile for Extension in 1969-70 includes 19,536 boys and girls, 9 to 19 years old, in 1,389 clubs. An additional 4,947 4-H boys and girls, not in organized clubs, were enrolled in special interest groups. Extension personnel provided learning experiences for another 6,532 boys and girls not involved in any kind of 4-H program.**

Nearly 5,000 adult volunteer leaders provided leadership to the clubs, contributing to the success of the program. They were assisted by 3,465 older 4-H youths who served as junior and 'teen leaders. As junior and 'teen leaders, the older 4-H member developed their own membership techniques and assisted adult leaders with organizational and project work.

The average South Dakota 4-H member is 12 years old, "going-on-13," and has been enrolled about three years. Almost 40% of the members are from families with annual incomes of less than \$3,000. South Dakota is a leading re-enrollment state with 75% of its previous year's members returning.

Strictly rural in the early days, 4-H projects now are diversified to appeal to urban as well as rural youngsters. This year, 42% of the South Dakota 4-H membership was from small towns and cities.



These Youths Volunteered to Help Other Kids . . .

## "4-H-Like" Expansion

A special allocation of federal monies in 1970 helped 4-H to reach additional boys and girls from low-income families through "4-H-like" activities and groups. Nutrition program aides, working under the supervision of county Extension home economics agents, have spent over one-fourth of their time teaching nutrition in these youth programs. Pennington County began two "4-H-like" clubs — one an all-Indian group. In addition, a program assistant is working with an unorganized group of girls. One hundred and twenty-five young people in the Lawrence-Meade County area are receiving a series of lessons on foods and nutrition, meal planning and personal grooming. Approximately 700 young people are involved in special "4-H-like" programs in Beadle, Codington, Grant, Pennington, Minnehaha, Charles Mix and Roberts Counties.

"Teenage volunteers were trained in club organizations and foods and nutrition subject matter at a "Food and Fun" camp at 4-H Camp Lakodia. Following a week of training, the girls returned home, each to contact 25 or more young people not involved in any particular type of organized group activity. The volunteers hope to organize these groups into 4-H clubs. During the summer of 1970, the volunteers visited homes, talking to homemakers and their children about 4-H and the nutrition project.

Appealing nutrition games and puzzles were developed to attract young people and to aid in the teaching of good nutrition. Included were "Food Bingo," "The House of Food and Fun" game, six different crossword puzzles and specific food preparation lessons designed to help low income families prepare balanced, nutritious meals.

## Other Imaginative Projects

New projects and approaches are capturing the attention of South Dakota youths. The 4-H bicycle project was initiated with 3,819 boys and girls completing the first year's unit. Counties that conducted intensive training sessions, available to all third, fourth and fifth graders, included: Meade, Day, Brown, Mellette and Grant. Results have brought enthusiastic responses from schools cooperating in the intensive training sessions. For example, Aberdeen school principles want the series repeated annually for third grade youths.





Small Engines and other Imaginative Projects . . .

Projects concerned with good environment for humanity (conservation of water, soil, forests, wildlife) also hold special appeal for youth. Of particular interest was the Pheasant Rearing for Release Project with 202 members enrolled. They released over 8,000 young pheasants. Potting of conifers was another popular project for several counties. Boys and girls potted evergreens for sale to soil conservation districts and individuals.

South Dakota annually imports approximately 200,000 feeder pigs, so a feeder pig project was initiated.

Veterinary science, pollution control, physical fitness, commodity marketing, small engines (including snowmobiles) are projects that have kept 4-H in step with today's science and youth interests. Members can initiate their own projects through the Self-Determined Project, which allows 4-H members to pursue any interest area that appeals to them.

The Discovering 4-H Project was created in 1970 to help 9-year-olds enrolling in 4-H. Often persons of this age are at a loss as to what project to take. Discovering 4-H, therefore, is a combination of the Home Economics Beginner's Project plus samplings of several other projects of interest to boys and girls. The member is offered activities in several areas until he discovers which of the projects holds the greatest interest for detailed work. Then, he or she may enroll in a specific project area.

Many events held throughout the 4-H year provide youths with leadership learning experiences and open avenues for physical, social and mental development. For example, approximately 300 4-H members, 14 to 19 years old, attended State 4-H Club Week at SDSU,

3,132 boys and girls attended 4-H camps, 136 went to 'Teen Camp and over 7,500 participated in one or more 4-H State Fair activities.

A Youth Development Camp was established in 1969 to reach underprivileged youth and to provide growth experiences. Although attendance has not been high, the camping experience has been excellent. Each camper developed a close relationship with the counselors and a secure feeling of belonging and being an important member of a group.

The Junior 4-H Council in Lake County paid \$6.50 of the \$7.50 camp fee for six underprivileged youths in their vicinity. The experience has been enlightening for 4-H Council members as they commented that, "We weren't aware that there were so many underprivileged boys and girls in our community!"

### Leadership Development

Volunteer adult leaders—the key to the success of Extension's youth program—continue to be the stalwarts of successful 4-H work. About 460 leaders participated in "new" leader training meetings in 1970. An additional 367 leaders completed five or more sections of a leader's correspondence course.

Additional training for leaders was available through: 15 area 4-H leader institutes; a leader forum trip to the National 4-H Center in the nation's capitol; subject matter shortcourses; judging workshops; and local training meetings. To strengthen county 4-H leader organizations, a guidebook was prepared outlining realignment of the local organization.

Because the basis of a good 4-H program depends on what is done at the local level, a study of 4-H membership by age and residence, leadership resources and participation in activities and recognition events was conducted in 13 counties. Follow-ups will be made in these counties this year. Additional counties, seeking assistance in strengthening local programs, will be surveyed.

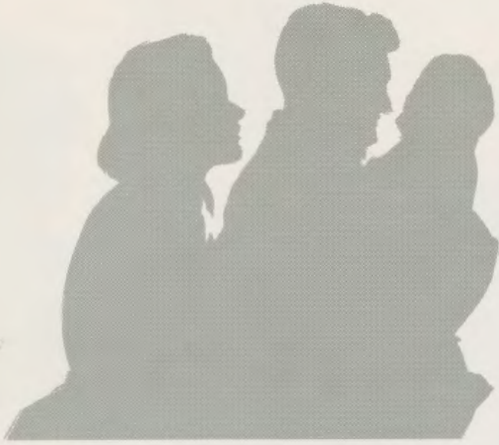
### Private Funds Stretch 4-H Work

The mission of the 4-H Foundation of South Dakota Inc. is to secure and invest private funds to enhance and assist the publicly supported 4-H programs of the South Dakota Extension Service. In the seven years since its inception, the 4-H Foundation Inc. has grown to over 500 memberships.

A \$100,000 fund-raising drive was launched by the Foundation in 1969. A \$10,000 portion of that amount has been earmarked for expansion of the National 4-H Center in Washington, D. C. The rest will be for improvements and expansion of state 4-H camps at Camp Lakodia and Camp Bob Marshall and for developing 4-H programs, events and awards.

The 4-H Foundation of South Dakota Inc., helps stretch 4-H in ways not possible through public funds alone.





## ***Extension in the Home***

An estimated 13,500 families were reached by home economics programs through organized Extension homemakers clubs. An additional 13,347 homemakers were involved in other Extension sponsored teaching activities. The major emphasis has been on balanced diets for families.

### **Expanded Foods and Nutrition Program**

Intensive nutrition education was conducted on a face-to-face basis with 2,064 disadvantaged homemakers in an effort to insure that everybody in South Dakota "gets three square meals a day." Fifty-five paid, part-time non-professional program assistants were recruited for "field teaching" in Minnehaha, Roberts, Beadle, Codington, Grant, Pennington, Charles Mix, Lawrence and Meade Counties, under the supervision of county home economics agents.

Basic nutrition was taught to 1,347 individual families; an additional 704 homemakers were taught nutrition plus food buying, preparation and storage; "4-H-like" foods and nutrition activities were provided 457 youths reared in families receiving food stamps or commodity foods; and 797 youths from other low income homes received training in nutrition and personal grooming.

Food stamps are available in 52 South Dakota counties; 14 counties provide commodity foods to low income people; and both commodity foods and food stamps are available in one county. Home economics agents in the respective counties became acquainted with the routines of the stamp and food distribution centers and with patrons of these services in an attempt to assist with menu planning, food buying and selection of less costly foods. In counties having commodities, home economists and program aids prepared dishes and provided recipes of the less familiar foods being distributed.

Seven college girls, five National Expanded Nutrition program assistants (assigned to "4-H-like" activities) and 18 volunteer junior leaders were trained at a summer "Food and Fun" camp at 4-H Camp Lakodia, near Madison.

Six of the college students — nutrition or home economics majors—were employed to work with low income youth in Mitchell, Aberdeen and North Sioux City. The seventh student worked in "4-H-like" activities in Charles Mix County. During weekly meetings with youths, the students taught nutrition and health and supervised recreational activities. Day camps were established at Aberdeen and Mitchell.

Each of the teenage volunteers, working under the supervision of program assistants, attempted to establish club work with 25 youths in the areas of nutrition, health and recreation.

### **Nutrition Program Assistants Reach the People . . .**





In the words of those on the teaching as well as the learning end, these are the results:

*(A program aid) "The program provides inroads to problems that have laid smoldering for many years. It also provides a built-in approach to reach youth and adults otherwise unreached." . . . (A family receiving help) "It's nice to have someone to talk to whom you know you can trust and is really concerned about you." . . . (A homemaker) "I believe this is one of the best programs I have seen and believe it will educate people to use what they have and to live within the income they have." . . . (A 9-year old child) "Mom! Be sure and tell the program assistant we're eating breakfast now!" . . . (A program assistant) "Low income homemakers (with children enrolled in Operation Head Start) have been taught money management, to look for values in children's clothes and how to make over clothes." . . . (With minority groups) Young women in one community are learning organizational skills and are interested in starting a cottage industry. They've become a stimulus for women groups in the Indian communities." . . . (A program assistant) "Since the area is low income, most of our work is done from the economics approach, but we feel the most important gains are behavioral and not financial."*

### Parent-Child Relations

Extension family life education seeks to improve the quality of living throughout the range of human emotional, physical, social development. Study emphasis by Extension homemakers in 1970 was on parent-child relationships, discipline, tensions and stress, values, child development, bridging the generation gap, drugs, alcohol, sex education, and on leisure time and the entertainment media.

Clubs in over half of the counties learned about the creativity of children in the "Grow with Arts Project." In another project area, 15 clubs in one county evaluated entertainment media offerings to youths and adults from the standpoint of their own values and discussed ways of improving them.



For First Time Illiterate Mother Learns about Nutrition...

Parents were especially concerned with the problems in American society. Six hundred and seventy-five homemakers attended sessions in which personal values in today's society were discussed. In one county, parents talked about the need for family life sex education in their homes, schools and churches. A presentation on the drug problem by one home agent at the county crop show was viewed by 220 persons. Her newspaper series on drugs also received widespread attention. Nineteen counties had programs dealing with the effects of physical, emotional and social pressures and tensions.

### Clothing and Grooming Helps

Due to clothing construction and fitting lessons available through Extension, homemakers were able to save from one-third to two-thirds of the the purchase price on more than 4,000 garments completed in home clothing projects.

This year, 24 home economics agents in 28 counties, worked with 1,768 homemakers in 49 clothing construction workshops. In addition, Extension trained 175 persons in a 4-H Fabric Forum in pattern alteration and new fabrics use and care. Subject matter included advanced construction, basic sewing, fabrics, finishing details, grooming, intermediate sewing, knits-lingerie, stitchery and tailoring.





The lingerie workshop was most popular with 1,254 participants. Tailoring and basic sewing were next in popularity.

Fabric selection and pattern selection information was offered at the club level in 17 counties for 408 home economics club leaders, who in turn taught over 3,700 club members. Grooming lessons, taught by 211 leaders, reached approximately 2,500 club members. Lessons on sewing double knits were available to 1,100 persons in the state in 1970.

### **Family Financial Security**

Many of the families which Extension education benefits, such as those in the Expanded Nutrition Program, have had trouble making financial ends meet. Extension's record keeping lessons are one of the tools which have helped married couples remain financially solvent in a struggle against rising prices.

Misuse of credit becomes a dilemma for many families, so Extension lent a hand with leader training schools and workshops on credit. Building financial security depends on wise use of family resources, so consumer education also received attention. Sixteen hundred and twenty-three persons attended lessons on buying such items as cars and houses.

Estate planning lessons with local attorneys present to give information and answer questions were attended by 227 persons. An open meeting on investments for security was attended by 116 persons and another on financial decision-making attracted 2,793 home economics club members.

### **Home Furnishings and Equipment**

Extension education programs reached 12,639 persons in 39 counties in an effort to meet home furnishings and equipment needs for families in 1970. More than 4,000 of this total were taught packaged learning programs, using tapes, visuals and films.

The regular Extension lessons included major equipment, portable appliances, carpeting, laundry products, room planning, wall coverings, refinishing, upholstery, antiques and drapery and curtain construction. Included in the packaged programs were lessons on accessories for the home, cleaning aids, storage, new ways with windows, centerpieces for all occasions and carpeting. New products were shown and discussed along with ways to use them.

Effectiveness of the packaged program on carpets—using cassette playbacks of the specialist and colored slides—is illustrated by a dealer's reaction: "*They (the homemakers) used to ask how much does it cost. Now they ask what the fiber content is, what the backings are made of . . . One lady cancelled her original kitchen carpet order and ordered a better quality!*"

### **Cultural Arts**

South Dakota was the first state to adopt cultural arts as a project after its endorsement by the National Extension Homemakers' Council. The new project this year enriched the lives of almost 14,000 home economics club members, extended art opportunities to countless family members and generated art appreciation discussions in most South Dakota communities. There is really no way to estimate the "ripple effects" of the Cultural Arts Project on people . . . how does one measure creative discoveries and artistic appreciation?

The Cultural Arts Project, now in its second year, was conducted in cooperation with the relatively new State Fine Arts Council which promoted the Pioneer Memorial Art Center at Brookings. Extension homemakers clubs contributed \$10,000 to the art center, and Extension published a pamphlet reviewing South Dakota's heritage of art and artists.

Materials promoted artists and their paintings, architecture, sculpture, cartooning, photography and graphic arts. A reading list also was prepared on Indian and Negro cultures.

Extension used the resources of colleges, organizations, communities and individuals during the fall training meetings in 1969 on the cultural arts. Twenty counties were represented at the first Summer Program in Cultural Enrichment, held at SDSU emphasizing Indian cultures.

At least 300 homemakers participated in classes in painting, ceramics, collage and graphic arts. Several counties held art shows or festivals featuring work of all the people in the community. Fifteen counties sent homemakers club members on educational art tours to Minneapolis or Omaha and 26 cultural arts leaders went on a liturgical art tour in Sioux Falls. The more than 800 participation certificates and 115 gold seals awarded for participation represent, but a 10th of the goals and accomplishments achieved by women in the project. Forty-six counties studied Rembrandt. Over 7,200 club members learned about the intuitive development of art in children.

The Cultural Arts Project will continue until 1972.

### **Family Health and Safety**

Thirteen thousand, seven hundred and sixty-three persons—about half the Extension homemakers in the state—received lessons or courses in health and safety in 1969-70. Areas covered included: Drugs, defensive driving, poisons, medical self help, fire, child safety, alcoholism, pesticides, natural hazards, highway safety, health resources, farm safety, home safety, first aid, venereal disease, colds, overweight, other diseases and general safety.





# Extension Communications



The umbrella of information support for the South Dakota Extension Service is provided through newspapers, magazines, radio, TV, specially prepared fact sheets, circulars and bulletins, newsletters and audio-visual packages.

**Out-of-the-ordinary communications, initiated by Extension in the fiscal year July 1969 through June 1970, included:** Development of a taped narrative cassette and colored slide package to deliver home economics lessons; a livestock outlook workshop on educational TV; in-depth magazine and newspaper features depicting how persons were helped through the National Expanded Foods and Nutrition Program handled through Extension; interpretive features on water, community and human resources; pooling Extension talents to alert and prepare producers for an armyworm invasion; and development of visual aids emphasizing pollution and environmental imbalances.

## Measurable Results

These out-of-the-ordinary approaches, plus the more routine communications support material from Extension, added up to 1,200 news articles and more than 7,000 farm radio and TV broadcasts. Hundreds of additional news releases were initiated at the county level.

One hundred and twenty-five new, revised or reprinted publications totaling nearly 504,000 copies were issued for distribution through the SDSU bulletin room or county agents' offices. Small duplicating machines produced an additional 2,381,000 impressions of supporting material.

A survey of news copy initiated by Extension personnel and appearing in South Dakota newspapers shows that an average of more than 3,500 column inches of material are printed each week.

In addition, county agents and home economics agents answered approximately 43,600 letters, received 135,000 telephone calls, helped 97,200 office callers, visited 27,813 farms and homes, wrote almost 9,000 newspaper articles, prepared almost 2,900 radio broadcasts and participated in 145 TV broadcasts.

## Extension Makes the Top 10

The armyworm outbreak in South Dakota was one of the top 10 news stories listed by the Associated Press in 1969. Extension personnel at county and state levels and the State Agricultural Department worked together in alerting South Dakota farmers to the problem and in keeping current information flowing concerning the progress of the outbreak. Extension used the newswire services to keep daily newspapers posted and in making control recommendations. Stories also were written for weekly newspapers and for county agent use.

**Though the armyworm invasion cost farmers about \$2 million in crop losses and in investments in chemicals, prompt warning and control treatments saved at least \$13 million in crops.**

## New Audio-Visual Package

A carpet selection and care lesson, prepared by Extension using a taped narrative cassette and colored slide package, was tried out on a pilot basis in northeastern counties. Armed with this audio-visual teaching package, home economics club leaders gave 200 lessons in two months with favorable results. Use of the 37½-minute taped narrative, shipped in strong mailer packages with playback cassettes and 35mm slide series, was so effective that counties will begin purchasing a fleet of playback units. Subject matter will be expanded to agriculture.

Eight one-day training sessions on circular and newsletter writing were held for county staff members and secretaries to make better use of circular letters.

A booklet of biographical information on staff members was prepared for more effective program speaker introductions and news announcements about their appearance in the community.

## Information Flow in Electronic Media

The information flow to electronic media from South Dakota Extension specialists each week includes: Daily farm programs on 27 commercial radio stations; daily horticulture programs on 18 radio stations; daily home economics programs on 6 radio stations; and a weekly 4-H program heard over 6 stations. Forty half-hour TV shows also were broadcast over the state's four educational TV stations. Extension also produced two motion pictures on weed control.



## Printed Media Support

The highly successful Expanded Nutrition Program provides an example of Extension information support provided through the written word. While information staffs in many states steered clear of this story opportunity, apparently because of the social implications (nobody wants to admit to poverty) because of its newness, Extension's in-depth story, vignettes of home situations and photo evaluation of the South Dakota pilot programs in Minnehaha, Roberts and Beadle Counties were used in five major area daily newspapers. Comments from county public welfare directors, city health officers and family members helped by the program, verified the effectiveness of the nutrition program for low income families.

The articles promoted letters from all of the U. S. Congressional delegates for South Dakota. At least eight other state information staffs, plus information offices in Washington, D. C., Canada and India have used the feature material to help them in their nutritional programs. The feature was used in training home economics agents in South Dakota.

## Visual Aid Support

In addition to providing colored slides, graphs, charts and movies to Extension specialists and other staff members, the information staff also comes up with other imaginative support material. An effective example was the visual dimension added to the Water Quality Symposium through an exhibit displayed in the agricultural engineering building telling the story of water pollution in South Dakota.



# Adult Continuing Education

Emphasis on one of the fastest growing industries in America—education—is reflected in South Dakota by the growing demand by adults for credit and noncredit off-campus Extension courses offered by SDSU.

The 1969-70 figures show a 48% increase in enrollments for credit courses and a 52% increase in attendance in noncredit workshops, conferences and seminars over the 1968-69 figures.

**Each program is expected to be self-supporting from either tuition charged for courses or fees collected from credit-free activities.**

Sixty-six Extension credit courses were taught in 14 locations from Hot Springs to Marshall, Minn., with 1,969 individual course enrollees. Graduate enrollments accounted for 1,861 of the total number in the 66 courses taught.

Continuing adult education assisted in planning and programming 51 on- and off-campus activities, in addition to on-going Extension Service programs, serving 3,044 individuals.

In nursing and health services, statewide programs were established under Title I of the Higher Education Act which provides for training of professional as well as nonprofessional personnel. An engineering field service was established under the State Technical Services Act, providing technical service to business and industry in identification of technical problems as well as referral services to consulting engineers and engineering firms.

The large increase in number of graduate students enrolled in evening courses is due in part to the pressure for increased study opportunities from public school teachers in guidance and counseling, education and psychology.

Programs have been made available to Indians at Sisseton and Pine Ridge in cooperation with other agencies serving specific areas.

Short courses and conferences have been arranged for businessmen, school business officers, pharmacists, veterinarians and many similar groups requesting help through all colleges of SDSU.

Continuing adult education of the SDSU Extension Service is another approach to better serve individuals, business and industry in South Dakota.

How Extension Evening Credit Courses Have Grown

	Number of Centers	Number Courses	Enrollment	Total
		Graduate	Undergraduate	Enrollment
1963-64	1	4	0	83
1964-65	3	6	10	143
1965-66	4	11	6	291
1966-67	10	14	12	471
1967-68	14	23	23	827
1968-69	12	48	13	1146
1969-70	14	58	8	1861
Total Courses		164	72	236
Total Registrations				4822
				1140
				5962



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