Dakota Zephyr

South Dakota State College Extension Service, Brookings

The Soil Is the Basis of Civilization; Destroy It and You Destroy All

May 24, 1944

New District Has 100 Signers

Chamberlain, S. D.—Farmers in the Academy soil conservation district are an active group as revealed in a brief summary recently completed. A checkup shows that the new district which was organized last winter has approximately one hundred farm operators within its regular boundaries.

To date 51 of these operators have requested the supervisors for assistance for establishing one or more conservation practices. Contouring of small grain and row crops is number one conservation practice. Records show that 41 operators out of the above group have established some contouring ranging from 25 acres on one operator's farm to more than 1,000 acres on the Bert Creamer farm.

To date more than 8,00 acres have been staked by district technicians and it is believed that several more thousand acres will be on the contour before completing the planting of row crops.

Following the seasonal work of staking contour lines, continued assistance will be given to cooperators on construction of stock water dams.

Some cooperators indicated a desire to establish permanent water courses where gullies have previously interfered with farm operations. Blading equipment will be needed to blade these gullies in preparation for seeding to grass. It is anticipated that little of this work can be done until after the war on account of the equipment suitable for blading is being used on war projects.

Subsurface Tilling Doubles Crop Yield

Philip, S. D.—Doubling of the crop and production of better quality corn were the result last year of subsurface tillage of sandy loam soil, compared with the crop from listed land in the same field, is the report of Leo Staben of Milesville, a cooperator with the Haakon county soil conservation district.

Saves Tractor Fuel

Kadoka, S. D.—That contour farming saves him almost a half-gallon of tractor fuel per acre in each operation, is the experience reported by Charles Vogelsang, Wamblee, a cooperator with the Jackson county soil conservation district.

"It certainly beats up-and-down hill farming," Vogelsang remarked, "and besides that, there is a material saving in the wear and tear on the equipment operating on the contour."

Are Repairing Dams After Heavy Rains

Reliance, S. D.—American cheek soil conservation district has made arrangements with a dam builder for the third consecutive year to build and repair all dams in the district for the season of 1944. The plan used by this district relieves the dam builder of all responsibility of contact with the cooperator or the collection for work.

Conservation technicians stake dams and make arrangements for his progress from job to job and follow his completed work for approval. All work must meet district specifications to pass approval and be eligible to receive AAA payments. By this method the work progresses continuously without pulling back and forth over the district.

Much interest in contouring of fields has always been shown in this district and much new work was done this last winter. The technicians and their helpers use a unique method in this work. An iron rod loose in an iron pipe so that it can be driven into frozen ground, is used in much the same manner as an iron post is driven.

Into this hole is set a small willow, cut along the river, to take the place of the usual stake. Cattle do not seem to rub these branchy willows as they look much like a weed in the fields. American creek district has more acres of contoured fields than any other district in the state.

9 Years Conservation Fixes Worn-Out Farm

Doubled Contoured Acres

Centerville, S. D.—Twenty-five farmers are practicing contour farming on 1,300 acres this year in comparison to seven farmers on 119 acres last year. The interest, however, has developed from this small acreage, and it is possible that the acreage will be doubled what it is this year in 1945.

Minnehaha Members Like Strip Cropping

Sioux Falls, S. D.—Farmers in the Minnehaha soil conservation district are turning to contour strip cropping as an added means of controlling soil erosion. Warren Wright purchased a farm and has had the entire farm laid out for contour strip cropping for the crop season of 1944. Waterways, odd areas and a border strip will be seeded to alfalfa and brome grass along with an addition to the present pasture. Mr. Wright is also having a farmstead tree planting around his proposed building site.

Other farmers turning to contour strip cropping are Karl Risty, Telmer Ellofson on the D. L. Rupp place, Charles Bahnson, Earl J. Baumberger, Lawrence Elsinger, Hilding Anderson and Don Payne.

Lawrence Elsinger is changing from contour farming in 1943 to contour strip cropping on self-buidling terraces in 1944. Mr. Elsinger is alternating row crop, then alfalfa and brome grass mixed, then small grain, then alfalfa and brome grass, then back to row crop. This procedure repeats from the top to the bottom of the slope. Next year the row crop and small grain will exchange places following the same procedure.

The alfalfa and brome grass will be used as a source of hay and as a means of easy approach to any or all short rows in the field.

20 Years Cultivation Ruined Its Production

Alcester, S. D.—Carl Swanson in South Virginia township reports on nine years of progress of soil conservation work on his farm.

He says, "When I purchased the farm it had been under cultivation for less than 20 years and was already considered a worn out farm. Erosion and poor farming practices had ruined the productivity of the land. In 1935 the first terraces were built on the farm.

"Thirty acres of fields are now protected by terraces. Although these are fairly steep very little water ever runs off the field and erosion is almost non-existent. I have recently had these fields in alfalfa. It was necessary to buck the alfalfa further than on land without terraces but I have been able to harvest my crops in good shape and I haven't lost soil.

"This year about half of the alfalfa ground will be back in cropland. After the war I want more of my land terraced. Besides the terraced fields last year, I had about 20 acres of contoured corn. I don't know what the yield of this field was as I turned my stock on it. I do know that there was feed in this field for the stock for an additional month over what I had planned. I also contoured my small grain.

"The pasture has been greatly improved by plowing contour pasture furrows at regular intervals on slope. After the war I plan to decrease the spacing between the furrows so that even more water will be held on the slope. There is also a small dam in the pasture to furnish water for livestock.

"One thing I am sorry about is that conservation wasn't started soon enough. I feel sure that my neighbors and I would be raising more and better crops if the early settlers had known and used good conservation practices."

Run-Off from 1,000 Acres Concentrated on Only 80

New Underwood, S. D.—Ralph Kopp, a supervisor of the Pennington soil conservation district, living near here has all the runoff water from over 1,000 acres stored in the soil of 80 acres of wheatgrass hay land. The water was diverted from a natural water course and spread over the hayfield by a water spreading system designed by the district engineer and built by Mr. Kopp in November, 1943.

"This water spreader," says Mr. Kopp, "has already insured my hay crop against drought and in addition has kept the water here at home instead of increasing the danger of Missuri river floods."

Looking ahead Mr. Kopp predicted that the increase in hay yield in 1944 would practically repay the cost of construction.

Moisture Goes 22 Inches Deep

Spearfish, S. D.—That the moisture from the melting of heavy snow is retained to a greater degree on lands farmed on the contour is evident from tests and farmers' reports. Tests, with a soil auger, showed the moisture penetration to be 22 inches in wheat stubble on the contour strips. The moisture penetrated to only 8 to 12 inches on the same type o fsoil and similar slopes on fields not contoured.

On many fiields in the Lawrence-Butte conservation district, the melting of heavy snow of the past winter caused considerable runoff and some sheet gully erosion.

Penetrates Two Feet

The contour strips on the Warren Johnson farm north of Spearfish are on a silt loam soil and a 6 per cent slope. The wheat strips had a moisture peneration of 18 inches and the corn stubble, 24 inches. Very little erosion was apparent. A field of wheat stubble, just across the road, also an a 6 per cent slope and the same soil type, but it is farmed up and down hills. The moisture penetration on this field was eight inches.

Orval Banning, farmer east of Spearfish, reported that since his fields, previously showing severe washing and gullying, were laid out in contour strips last year the amount of moisture retained on them was increased. "There was no ruoff from these strips when the heavy blanket of snow melted," was his statement. Very little erosion was evident on this field.

All of Tripp Co. In District Is Farmer's Goal

Winner, S. D.—M. L. Warne, Tripp county agent, has received numerous requests this spring for aid and assistance in establishing contour farming, gully control, dam construction and other conservation practices from farmers outside of the two soil conservation districts in the county.

Because the requests have been so numerous, it would be simpler if all of the county were a member of either the Hamill district in north part of the county or the Clearfield Keyapaha district along the southern boundary.

The supervisors of these two districts have invited the farmers outside the districts to join.

Supervisors of the Hamill district are J. E. Broline, H. E. Covey, Joe Dvorak, Roy F. Nelson and Henry A. L. Thompson. The Clearfield Keyapaha supervisors are D. B. Lyons, Carl Keszler, Walter Hellman, Clyde Sargent and Carl Diez.

As the technical assistance and the organized effort the supervisors have available is confined to organized soil conservation areas, these supervisors feel that all land owners and operators should be given an opportunity to become a part of this program for soil and moisture conservation.

Many Acres Adapted

Mr. Warne reports that there are thousands of acres in Tripp County outside of these present districts that are adapted to contour farming, a practice that holds moisture, saves soil and increases yields.

He also states that this spring farmers report that there has been considerable gullying taking place as a result of the spring runoff. He explains that in conservation districts, the supervisors engage contractors or county equipment and organize a number of jobs and blade in these waterways and they are then seeded to permanent grass and left out of cultivation.

The proposed addition would include the following townships to be added to the Hamill soil conservation district: Pahapesto, Greenwood, Star Valley, Curlew, Lone Tree, Ideal, Progressive, Witten, Banner, Carter, Jordan, Black, Lamro, Plainview, Sully, Irwin and Colome.

The proposed addition would include the following townships to be added to the Clearfield-Keyapaha soil conservation district: Taylor, Rosedale, Weaver, Wilson, Dog Ear, McNeely, Pleasantview, Elliston, Stewart, Lincoln, Keyapaha and Valley.

Tentative plans are to divide the county as indicated on the map on this page. This suggested division is made on a basis of predominating soil type, the northern area being on the heavy or gumbo soils and the southern area on the lighter or sandier soils.

Mr. Warne is anxious to know the sentiment of the landowners and operators in townships that are not included in these districts. He has indicated that if people in these townships show by their interest that they wish to become a part of this organized effort for erosion control and moisture conservation, that he will offer the assistance of his office in making this organization possible.

Considering Enlarging 2 Districts

Area 1 in this map of Tripp county is the present Clearfield-Keyapaha soil conservation district. Area 2 is the area which is proposed to be added to the Clearfield-Keyapaha district. Area 3 is the present Hamill district and it is proposed to add area 4 to the Hamill district, making the entire county a part of one or the other of the two districts.

DAKOTA ZEPHYR

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Strip Cropping Good on Sand

Hecla, S. D.—Strip cropping has proven to be one of the most important conservation practices on the farm of A. L. Severin, located one and a half miles south of Hecla, Mr. Severin states "Strip cropping is absolutely necessary on this sandy type of soil, in order to limit soil blowing and to get satisfactory crop yields."

Mr. Severin is one of the very early cooperators with the Brown-Marshall soil conservation district. His farm plan includes strip cropping with strips 8 to 10 rods in width and buffer tree belts at 40 to 60 rod intervals. The tree belts have all been established and the strip cropping plan has been followed for the past five years.

From the experience Mr. Severin has gained with this conservation practice he has the following to say: "I find that strip cropping greatly cuts down on the wind erosion damage while crops are still in the seedling stage and, of course, that makes the difference between a fair crop and no crop at harvest time. Even slight blowing for an hour or so while the crop is small is enough to reduce the final yield 5 to 10 bushels per acre."

Complete crop records, including damage from wind erosion, and crop yields have been kept by Mr. Severin on each individual strip so he has been able to evaluate with reasonable accuracy the benefits he has derived from the wind strip cropping practice.

Tilling Sub-Soil Holds Moisture

Rapid City, S. D.—"Sub-surface tillage looks like one of the best ways to hold moisture where it falls and stop soil erosion," says George Cottier, who farms near Wicksville.

Last year when Mr. Cottier decided to do some sub-surface tilling no specially designed machine was available so he took the mold boards off his plow and went to work.

"The moldboardless plow," he says, "pulls easier, does a good job and is O.K. in every respect and eliminates the need for purchasing a new machine."

In addition to sub-surface tillage, Mr. Cottier will list all his corn on the contour in 1944. He is cooperating with the supervisors of the Pennington soil conservation district who have surveyed the fields and marked the contour guide lines.

New District In Yankton

Yankton, S. D.—After a favorable referendum the matter of appointing and electing supervisors for the new Yankton county soil conservation district has occupied the attention of the temporary committee. Edward O. Lien, Volin, and Harry A. Christopherson, Menno, were recommended by the temporary committee as their choice for supervisors to be appointed by the state committee.

Considerable interest in conservation activities is apparent in the district at the present time. There are approximately 20 applications for work already received by the temporary committee or have been turned in to the District Conservationist at Alcester.

These, or course, will be presented to the new board of supervisors for their consideration after they have been elected and organized as a board. Through the assistance of farmers themselves and the temporary committee some contour guide lines have already been established.

It is felt that this work will serve as demonstrations for other farmers in the territory to observe contour farming practices and the results that can be obtained by contour farming. The farms where this work has been laid out are pretty well scattered throughout the district and should serve as valuable demonstrations.

Crested Wheat Yields Seed After Pasturing

Mission, S. D.—Thirty-five acres of crested wheatgrass provided about six weeks of early spring pasture for 100 calves and still produced a fair crop of seed last year, is the report of Ray Cross, eastern Todd county farmer and cooperator with the Rosebud soil conservation district.

The grass was seeded in an old alfalfa field as part of the soil and water conservation plan which soil conservation service technicians assisting the district helped him work out.

Seeding was done in the fall of 1940, Cross said, and in 1942 the crested wheatgrass produced more than a ton of hay per acre.

"Last spring," he continued, "I turned 100 calves into the pasture in March and kept them there through April. The grass kept ahead of them, and in August I harvested 110 pounds of crested wheatgrass seed per acre."

This, it is pointed out, is somewhat more than can be expected generally because the grass started growth unusually early last year.

'Seeing Is Believing—' Water Stands on Hill

Rapid Contour Rise In Jackson District

Kadoka, S. D.—In 1942, 612 acres were farmed on the contour within the Jackson county soil conservation district; in 1943, another 1,469 acres were farmed on the level to make a total of 2,081 acres. This spring another 1,102 acres have been surveyed and approximately another 1,000 acres will be staked out by the technician on the district before the crop planting season ends. This will make a total of over 4,000 acres which will be on the contour this year in the Jackson county district.

Those who have their entire cropland acreage on the contour are: Joe Barth, Everett Hazlett, Charles Hazlett, Herbert Sinclair, Carl Hood, Frank Munger, Ed McRae, B. G. Oien, Aure Fite, Kenneth Heltzel, Clarence Jarvis, and James Barr.

The best way to determine the merits of this practice is to ask the man who farms this way. The increased number of operators requesting assistance in laying fields out on the contour in the Jackson County district proves that farming on the level produces the desired results in this area.

Contours Keep Water Away from Slough

Springfield, S. D.—Tom Dempster, one mile east of here in Emanuel Choteau creek soil conservation district, says that contour farming keeps the moisture up on his hill to raise a better crop there. Not only that, he had a solugh hole at the bottom of the hill which used to always fill with water and drown out the crop before contour farming.

Now after the hill has been contour farmed the water stays on the hill and doesn't drown out the crop in the slough. How is that for keeping water where it is needed and away from where it isn't needed!

Mr. Dempster started out contouring on his own when he found that the water was running off the farm and taking the soil with it. The soil conservation service assisted with laying out of contour lines. Now after an additional four years of contour cultivation he has increased his yields materially and just as important he has kept his topsoil on the hillside.

Canton, S. D.—"I never heard of that contour farming until this year but I certainly think it is alright," remarked Minor Mathison living 2½ miles south of Canton.

This was Mr. Mathison's first experience with farming on the contour and he declares "It is the only way to farm the sloping land, as it saves the soil and moisture and is bound to increase yields."

Lawrence Gates, who farmed one field on the Mathison place, estimates that the yield of corn was increased by about 10 bushels per acre because the rows ran around the hill rather than up and down. The soil conservation service made a yield check on this field and by actual sample found that the yield had been increased by nine bushels per acre.

Some of the evidence that has "sold" Mr. Mathison on this method of farming are a few observations made during the 1943 cropping season. "On this same field in 1942, I disked diagonally up and down the hill before planting some Sudan grass. A heavy rain came shortly afterwards and washed large gullies where the disk had left marks. This year (1943) with even harder rains and the field planted to corn, there was no washing at all. The only explanation is because of the rows running around the hill rather than up and down."

One Sunday after a hard rain Mr. Mathison and a neighbor, Mr. Hovik, stepped outside to see what was taking place in the contoured field just back of the house. "The water just stood there on the side hill like it was a level field; you can hardly believe it until you see it," was his comment.

This field was picked with a two-row mounted picker and the operator told Mr. Mathison that his tractor wouldn't have enough power to pull the picker up and down the hill in the field but with the rows on the level there was sufficient power.

In addition to these facts, instead of finding a gully between each row Mr. Mathison says, "The rows are leveled off even though the corn was hilled up good at each cultivation. In another field of mine farmed by Ray Eliason the same beneficial results were received so I have double proof of the benefits of farming on the level."

A carefully planned crop rotation may prove to be one of the cheapest ways of keeping the soil fertile and of controlling erosion.

Bottoms Dry Same Time As Hills for First Time

Belle Fourche, S. D.—For the first time in several years some fields on the farms of Jacob Herman and John Durr, cooperators with Lawrence-Butte soil conservation district, have dried off at the same time as the rest of the farm.

With the assistance of the soil conservation district technicians and equipment, these two men have planned drainage systems to clear their land that is too wet to maintain high production.

Was Too Water-Logged

On the Durr farm several small areas had become water logged to the extent that they no longer would grow crops. A drain ditch was dug in 1942 to drain these fields and prevent further spreading of the seepage. After two seasons the worst of these fields are in shape to produce legumes profitably.

The ditch on the Herman farm drains parts of several fields; was dug in 1943. Mr. Herman stated that he would now be able to clear out some willows and farm parts of his beet field that had been a total loss up until now; also, five or six acres of the same field would be dry enough to plow with the rest of the field. Before, it was too wet and caused considerable delay with plowing and beet harvesting.

Deep open drain ditches are being used on these farms to lead the underground water off the field into natural drainage ways.

Pasture Improvement Allows More Cattle

Spearfish, S. D.—With improvements in his irrigation system saving time and labor, and contour farming of his sloping lands having checked erosion, Frank Papousek near here, reports that he is now developing his pastures so that he can keep more livestock at home.

This is possible, he said, because of improved production on his best farm land and seeding crested wheatgrass on the less productive land.

Readjustment of land use and establishment of conservation practices, he said, are part of the farm conservation plan which he worked out with the help of the Lawrence-Butte soil conservation district. Soil conservation service technicians assisting the district are furnishing the technical services.

Improvement in the irrigation layout came after a survey by the technicians which showed the need for changing the direction of the rows and some land leveling. The improved irrigation layout brought better production and savings in work and water, Papousek said.

His dryland fields, he continued, are on the highly erodible "red beds" and several gullies had formed. With his land contour farmed, the gullies have been bladed in, seeded to grass and used as waterways.

Gregory District Has Labor Troubles

Burke, S. D.—A few years ago when the soil conservation program was in its infancy, soil conservation technicians had to spend a part of their time beating the bushes in search of cooperators. Right now, the work unit conservationist of the Gregory county district is beating the bushes in an effort to round up enough help to take care of the requests for work that have been voluntarily made by the farmers.

The following shows the practices asked for:

- 7,121 acres of contour row crop
- 7,499 acres of contour drill crop
- 73 acres of gully control
- 58 dams
- 17 acres of irrigation
- 19 wells
- 17,628 acres of subsurface-tillage and grasshopper control
- 955 acres of weed control
- 2 grass seedings
- 21 men reported they would have 326 acres of grass seed to harvest

Every effort is being made to fulfill these requests for work. First priority is given to farmers already under agreement and the new applications are taken in order.

Day Aims at Run-Off, Evaporation Wastes

Webster, S. D.—The adoption of farming methods that will reduce the runoff and evaporation is one of the objectives of the Day county soil conservation district according to J. J. Cowan, chairman of the supervisors. That contour tillage retains the moisture has been noticed on several farms.

Dams Stand Test of Heavy Spring Floods

Miller, S. D.—With the heaviest snowfall experienced for years, the Elm Creek Valley was subjected to flooding from spring thaws that approached high water flood stage. The water not only filled all of the new dams, but its overflows tested the spillways, diversion ditches and dikes that were constructed during the past year over the district.

Cooperating farmers report that all of the dams and structures held up in a satisfactory manner and spillways and diversion ditches functioned effectively except in a few instances where large snow drifts clogged spillways and channels and had to be cleared out to start the flow of water.

The experience of building dams over the district during the past year emphasizes the need for sound engineering planning including such things as proper sight location, use of a core to prevent seepage, high enough free board to prevent overtopping, an adequate spillway to handle flood flows.

On the larger systems where a trickle flow continues after the main flood flow, secondary spillways are essential to prevent cutting. The district has also given assistance to farmers who experienced trouble with their old dams. A common cause of trouble is not enough free board, inadequate spillways or too steep slopes and improper slopes on spillways, so as to cause failure of the dam. A number of these cases have been corrected and the dams are functioning satisfactorily.

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