

Farmer & Stockman

Basin Leaching

SALVAGES SALTY SOIL

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LAND that was too salty five years ago to produce a small grain crop is now highly productive, according to Willis McCollom, operator of the Carroll Kirk farm near Frannie, Wyo.

"It is a 28-acre field that we leached as an experiment," McCollom said, "and gave us the idea that it pays to have salty land examined carefully before it is given up as no good. Since then, we have treated another field, have 60 acres more about ready for seeding, and have another 50 acres cleared and ready to give the leaching treatment."

This is a 417-acre farm that Kirk bought some years ago. The upper half is free of salts, McCollom said, and is highly productive. The rest lies on a lower level, was very salty and, except for the 28-acre field, was covered with a growth of brush and salt-tolerant grass.

Conservation Plan

Kirk and McCollom began cooperation with the Shoshone Soil Conservation District and got the aid of the Soil Conservation Service technicians to develop a farm conservation plan. The irrigation system on the land under production was designed to give better control over irrigation water for the conservation of both soil and water.

"Then came the question of what to do with the 28-acre field that had been cleared not long before," McCollom said. "We had tried to raise a crop there but got nothing."

An examination showed that seepage from the higher land both on his farm and from other land was responsible for the condition of the lower part of the farm. An interceptor drain was laid out along the upper side of the salted land and Kirk had it built.

Suitable Internal Drainage

It was found, McCollom said, that although the surface soil was heavy, the land had satisfactory internal drainage if the seepage water from above were cut off. It seemed possible that if the salts could be leached from the soil, and then irrigation handled carefully, this land could be made to produce.

"We decided to try it, and it worked," McCollom said. "The land was leveled first and then terraces were laid out on the exact contour. The field was also diked along the sides. This formed a series of good-sized basins which we filled with water."

After the water disappeared, he continued, the basins were filled again. This was done five times during the summer, after which the salts appeared to have been leached out. The field was then leveled again and the irrigation ditch laid out and built.

Heavy Growth of Barley

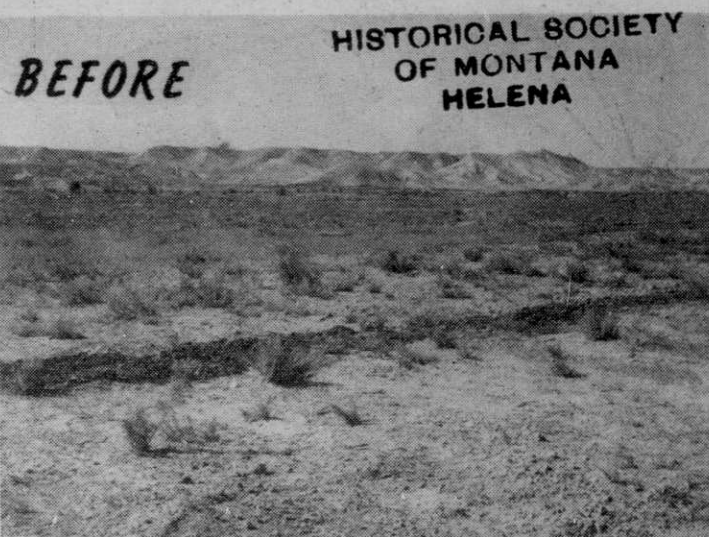
"Barley seeded on that field in 1950 had a very heavy growth," McCollom said. "The grain was knocked down by a heavy snow, however, but even so we harvested 28 bushels an acre by using a combine with a pick-up attachment."

"In 1951, corn on that field produced 12½ tons of silage per acre. Nitrogen fertilizer was used, of course. And in 1952, the field was manured and oats were seeded as a companion crop for alfalfa. The oats produced 78 bushels an acre and a good stand of alfalfa was established."

Except for the 28-acre field, Kirk and McCollom first have had to clear land that is being treated. Then it had to be leveled so that there could be uniform application of water during the leaching process, and the terraces and dikes built.

Waves Cause Trouble

"We've had our troubles and (Please turn to page 13)



This picture shows a field on the Carrol Kirk farm near Frannie, Wyo., as it appeared before it was leveled and laid out with contour dikes and basins. It is so salty that practically nothing will grow on it. (SCS photos)



This picture shows a first-year seeding of alfalfa on a field that was leached the year before by the basin method.



This picture shows some flooded basins in action leaching out excessive salts and alkali. The basins are made by constructing contour dikes across the fields. It requires a year and about five leachings to reclaim the land.