Soil-saving schools

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AT THE WICKEPIN SCHOOL

1.—Mr. B. Marsh (S.C.S. Adviser) explains the contour earthworks on the school site with the aid of a blackboard.

2.—School member Mr. E. Stott acts as staff man.


4.—One of the gullies in the school site paddock.
"Save the soil for your sons and grandsons," or "Every farmer his own soil conservationist" might well serve as slogans for the recently-inaugurated farmers' schools organised in this State by the Soil Conservation Service. Judging by the enthusiasm shown by pupils at the first two schools, held in August last, this highly practical approach to an important subject seems destined to usher in an entirely new conception of soil conservation work as it affects the individual land-owner.

The fact that good soil husbandry—especially in the direction of pasture establishment and maintenance—must always remain the first line of defence against soil erosion, was emphasised by the Assistant Commissioner for Soil Conservation (Mr. L. C. Lightfoot) in explaining the objects of the schools.

Mr. Lightfoot, who has been in charge of the organisation of the schools, said that most farmers were anxious to increase and improve their pastures. Apart from their value in soil conservation, improved pastures represented increased stock-carrying capacity. They provided a means of increasing soil fertility and were an avenue to greater profits.

**Pastures Not Always Sufficient**

In the soil conservation sphere however, the pastures alone were not always sufficient to protect the soil from erosion. On sloping soils they frequently needed to be augmented by earthworks such as contour banks, pasture furrows, absorption banks and gully stops, the planning, surveying and construction of which was regarded by most farmers as "a job for the experts".

Admittedly, where serious erosion has already taken place; where valuable topsoil has gone beyond recall, and sheet erosion, gullying and drift have exacted their grim and greedy toll on a large scale, the task of arresting the damage is definitely one calling for specialised knowledge. To heal the scars caused by erosion and to bring back fertility to sick soil, technical skill and special equipment are needed—and unfortunately we have enough of these major projects in Western Australia to keep the trained staff of the Soil Conservation Service busy for some years to come.

On thousands of farms throughout the State, however, are less serious examples of erosion—minor soil problems which, as yet, have not progressed beyond the "nuisance stage" but which, if neglected, may become the major problems of the future.

Given suitable training, the average farmer is quite capable of handling these threats to his soil and the provision of such training is the purpose of the soil conservation schools which are being organised in the agricultural areas.

**Aids to Self-Help**

The schools are designed to help farmers to help themselves—to teach them sufficient of the theory and practice of soil conservation work to enable them to check tendencies toward soil erosion on their properties before the damage is serious enough to require the
THE IRISHTOWN SCHOOL. 1—Mr. D. J. Fleay (S.C.S. Adviser) explains the works planned for the school paddock. Completed banks and marked-out lines in background. 2—Mr. J. Smith on tractor and Mr. J. E. Watson (S.C.S. Adviser) building contour bank with grader-ditcher. 3—Building a gully stop with small tractor and dozer blade. 4—Building an absorption bank with farm tractor and dozer blade.
advice and supervision of trained soil conservationists.

The schools are carefully organised by the Soil Conservation Service working in close association with local organisations such as Road Boards, Pasture Improvement Groups, District Agricultural Societies, Progress Associations or Farmers' Union Branches, and such bodies must be willing to shoulder a goodly proportion of the preliminary groundwork.

Their roles will mainly lie in the direction of enrolling pupils willing to attend the classes; selecting possible sites for both the actual school and for inspection visits to examples of soil erosion in the area; and on occasions arranging for the loan of tractors, ploughs, and other implements needed to demonstrate earthworks construction.

Officers of the Soil Conservation Service will be available to help decide on the best site for the school, preferably one showing the greatest possible diversity of simple erosion control treatment needs and one that is reasonably easy of access and near a main road or township. The S.C.S. officers will be ready at all times to assist and advise on matters connected with the organisation of the schools.

Schools will generally be of one or two days duration and the general pattern will be on the following lines.

An inspection of the school site will be followed by discussion of the erosion which has taken, or is taking place, together with the recommended remedial measures. The reasons for using different methods to fit differing needs will be given throughout the school as opportunity offers.

Farmers will be instructed in the use of surveying instruments such as the surveyor's level (usually called a dumpy level) as well as the operation of simple levelling devices which they can construct themselves at little cost. After instruction, the pupils will be given opportunities to operate the instruments by laying out lines for pasture furrows and contour banks.

Inspection of previously-constructed contour banks, pasture furrows, gully stops and other earthworks may be followed by demonstrations of their construction using farm tractors and standard farm implements such as ploughs. Where available machines such as grader-ditchers, rabbit rippers, scoops and dozer-blades fitted to farm tractors will be shown in operation under conditions where they may be used effectively.

The classes will inspect soil erosion control projects which have already been carried out in the district and also examples of erosion which may be used to illustrate particular lessons. At all stages of the school, suitable commentaries will be given by S.C.S. officers, and pupils will be encouraged to ask questions.

Upon completion of the school and if requests are made, officers of the S.C.S. will make individual visits to the farms of the pupils in order to advise and
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THE INAUGURAL SCHOOL

Through the activities of the Wickepin District Pasture Improvement Group there has been more call on the Soil Conservation Service from Wickepin than from any other district during the last two or three years. The inaugural Soil Conservation School commencing on August 4 was therefore fittingly held in that district.

The enthusiasm of the Chairman of the Group (Mr. C. G. Russell) and the Honorary Secretary (Mr. F. H. Miller) was particularly noticeable and the school attracted a number of pupils from Wickepin, Yealering, Dudinin, Toolibin, Tinkurrin, Harrismith and East Pingelly.

The capacity of the water-channel behind this contour bank (built at Wickepin with farm tractor and disc plough by Mr. C. Indicated by Mr. G. W. Spencer (S.C.S. Adviser). Staff shows effective depth of 19 inches.

The school was held in a paddock on the property of Mr. A. R. McDonald about five miles north-west of Dudinin, and the site chosen was an excellent one incorporating slopes from one of the gravelly hills originally carrying mallet timber—a type of country which is frequently subject to erosion troubles in these districts.

Some fairly severe gullying had already taken place on the paddock and the overall plan as described and illustrated on the blackboard by one of the S.C.S. Advisers, included the construction of a number of pasture furrows on the steep rock slopes and a system of contour banks of varying lengths discharging into a suitable waterway.

Some gullying had already taken place in the selected waterway, necessitating the construction of gully stops with spreader wings, and with this amount of work to be undertaken there was ample scope for the amateur surveyors to get busy with a variety of instruments. Those shown were of several types but undoubtedly the most popular device was the U-type hose level designed and constructed by one of the Soil Conservation Service Advisers. This device is fully explained and illustrated in an article in this issue.

Demonstrations of contour bank construction using a farm tractor and a twin-disc plough attracted keen attention and this was followed by similar demonstrations using mouldboard ploughs and a grader-ditcher for making pasture furrows.

A farm-made dozer blade fitted to a farm tractor was used for gully stop construction and the practical demonstrations combined with discussion provided farmers with a sound foundation for any individual soil conservation projects which they may undertake in the future.

THE IRISHTOWN SCHOOL

The second soil conservation school was opened on the “Bucklands” property of Mr. Sinclair McIntosh near Irishtown on August 25.

The Irishtown Pasture & Soil Conservation Group, which co-operated with the Soil Conservation Service in the organisation of the school, is a highly progressive body which, ever since its inception, has worked hand in
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hand with the Department of Agriculture in efforts to solve local problems.

In officially opening the school, Mr. E. Lee Steere, a member of the Soil Conservation Advisory Board, paid a warm tribute to the work of the Group whose members had repeatedly shown a willingness to help themselves and others.

His remarks were endorsed by the Commissioner for Soil Conservation (Mr. G. H. Burvil) who said that it was organisations such as the Irishtown Group which, over the past ten years, had rendered a great service to the State and the nation.

Officers of the S.C.S. had carried out work on this property over a number of years and the pupils at this school were given opportunities of inspecting the various types of earthworks.

Pupils were instructed in the use of various levelling instruments and demonstrations of bank building were carried out using standard farm implements and a grader-ditcher.

At the conclusion of the school, the Assistant Commissioner for Soil Conservation (Mr. L. C. Lightfoot) said that the keen interest of the farmer pupils, the quantity and variety of equipment made available and the excellent weather and soil conditions had combined to make the school an outstanding success.

He felt that these schools would be of great value to farmers and said that he hoped that they would be the first of many to be held in other parts of the State. The S.C.S. would always be prepared to co-operate with local organisations in arranging schools, but this did not mean that it would cease to carry out the individual advisory work.

Officers of the S.C.S. will still be available to visit farmers seeking advice on soil conservation matters, he said, but he felt that schools such as these would enable many smaller erosion problems to be tackled promptly by the land-owners themselves.

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