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USE OF FARM MAPS

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A reliable farm map may be thought of as a valuable piece of farm equipment which formerly would have cost a farmer \$20 to \$50. Because of aerial photography such maps are now rapidly becoming available to every farmer in the United States for about \$1.50 to \$4.00. It is predicted that sometime next summer the Agricultural Adjustment Administration will have completed the mapping of Minnesota by aerial photography.

To plan improvements in the physical elements of land, buildings, power, machinery, and labor for effecting balanced production of crops and livestock, farm maps are invaluable. Their use in this work may be classified under two general headings, (1) planning and (2) recording. Any farmer could make such use of his farm map now that it is available, or soon will be, with increased efficiency in the management of his farm.

HOW TO OBTAIN FARM MAPS

A farmer may obtain through his local Agricultural Conservation Committee as many copies of the aerial map of his farm as he desires although a single photographic enlargement should suffice. The original photograph is made to a scale of approximately 1667 feet to the inch, but enlargements of any size may be obtained. Inked copies of the photographic map made on tracing paper are better for planning and recording purposes than are the photographs themselves. The photographs are usually accurate to one-half of one per cent. Since some detail is always lost through excessive photographic enlargement, best results may be obtained by ordering an enlargement of about 660 feet to the inch and then making further enlargements by doubling or tripling the measurements through the use of proportional dividers in redrawing. In many cases this extra work will not be worthwhile. If desired, blue line prints may be obtained from a tracing made from the photographic map.

DETERMINING THE ACREAGE OF IRREGULAR FIELDS ON A MAP

A planimeter is the proper instrument to use for measuring the area of irregular fields on a map. However, if a planimeter is not available, the acreage in ir-

regular fields can be determined quite accurately, on a map of known scale, by the use of semi-transparent cross-section paper having squares of a convenient size. The smaller the squares in the cross-section paper, the more accurately will the acreage be determined. Lay the cross-section paper over the area to be measured and carefully trace the area on it in pencil. Now count the number of squares included within the area, progressively by rows, estimating, in tenths, the fractions of squares lying on the border. It is well to draw a line through each row of squares, as it is counted, in order to avoid errors in counting. It is easy to compute to the proper degree of accuracy the fraction of an acre each square represents so that the acreage of the area in question may be computed by multiplying the total number of squares included within its borders by the fraction of an acre represented by one square.

VALUE OF MAPS IN FARM PLANNING

A map is an extremely desirable aid to intelligent farm planning. If one has a farm map at his pencil tip, where he can remove a fence or a ditch or a pot hole with a few strokes of an eraser, he is enabled to see possibilities for improved field arrangement that will never occur to him by merely looking over the actual field or area in question.

A good way to start a farm plan is to take a copy of the map and remove from that map all the physical features that could reasonably be removed from the actual farm. In this way one's vision is cleared of a lot of fences and ditches and other objects that he is apt to forget can be moved. Not that he may not leave some of these objects right where they are in the final plan, but that he may get everything that he can out of the way until he has had a chance to see what the possibilities are. If a swamp can be drained, it will be removed from the map; if not, it will be left on the map. It is often highly impractical to move the farm dwelling in which case it would remain on the map, but all buildings which could be moved at reasonable expense will be erased from this basic map.

The next step is to draw up as nearly as possible the ideal farm lay-out based upon the remaining physical features

which show on the map. This gives the farmer the ultimate goal to work toward. Whenever a change is made it will be made not only with the immediate purpose in mind but also with the ultimate plan in mind. This ideal arrangement may not be realized for many years, but the farmer always will have it before him in a form in which it will not readily be forgotten and in which it will be altered only when a new and better idea is discovered. It is only natural that the plan will be changed and improved as time goes on, but by having the best ideas coordinated into a balanced farm plan which is always projected a number of years beyond current developments, much lost motion in the form of short-sighted changes will be saved. When a fence needs to be replaced, instead of being placed in one position now and some other place a few years later, it will be carefully measured in to conform to the new plan and will remain there. Careful planning will have made it unnecessary to move it.

The final step in systematic farm planning is to draw up a development schedule showing how and when the new plan may be expected to be completed. Without such a schedule the farm business may get out of balance during some of the intervening years between the old plan and the completion of the new.

VALUE OF MAPS AS A FARM RECORD

A farm map serves as the most convenient and effective means of recording all changes in physical features. A progress map may be prepared each year showing the crop that was on each area together with notations as to the seeding and harvesting dates, fertilizer applied, and other cultural treatments. Special notations may be written in, such as the rate of seeding or special tillage practices employed. All improvements such as tile installations and erosion control works may be carefully plotted on the map and fully described.

A set of progress maps may be kept from year to year. Such a system of keeping records is simple and yet may be as detailed as desired. With such a record it is possible for a farmer to look back and refresh his memory of the details on some cropping operation conducted in the past.