

FARM CENSUS TO BE AID TO AGRICULTURE

HOUSING SPRING ADVANTAGEOUS

Construction Should Be As
Everlasting As Source
Of Water

PIPING SYSTEM GOOD

Gravity System Superior If
'Lay of Land' Permits
Its Use

(By Elmo G. Harris)
PART VII

Is your spring still just as your grandfather found it? Is it periodically filled with mud, sand or leaves? Do hogs still have access to it and do cows occasionally cool their feet in it?

Our fore-fathers were better engineers than some of us for they used to the best effect the materials at hand. They cut off a section of a hollow tree and inserted it over the spring so giving us the old "gum spring." At this day, with all the better facilities and so many more people to enjoy the luxuries of a good spring and spring house, is it not our duty to fix up that faithful old spring so that it will be a thing of joy and a pride forever?

Type of Enclosure

The scheme for housing a spring depends on what use it is to be put to, and on the immediate surroundings about and under the spring. We may be content with a mere box to give depth and keep out the mud or we may want an enclosed house with shelves, troughs, etc., for storage of dairy products, vegetables and the like, or we may want a pump house and considerable reservoir capacity. Then the spring may flow out of a solid rock or it may "boil" up thru a sand bottom from unknown depths, or there may be a number of small springs seeping out along the foot of a hill and we desire to collect all into one outlet.

In any case the task of housing up or controlling a spring is one that should be approached with caution and carried out with great care and thoroughness. A spring is an everlasting thing, and the housing should also be everlasting.

One caution may be given here that will apply to all cases: Do not try to stop up a spring, for it is sure to break out somewhere else and that may be where you do not want it. You may loose your spring.

The great variety of conditions and requirements makes it impossible to give general directions. Some typical cases will be discussed. The reader will understand that these are intended to be suggestive. Every actual case will present a different combination of circumstances.

Locating Rock Bed

The presence of rock within ten feet of the surface can be detected in a few minutes with a small steel rod. This can be driven down in wet ground by hand and easily drawn out with a monkey wrench set loosely over the rod and raised by the handle. Many soundings should be made so that the operator will be sure he has or has not found the bed rock.

If bed rock is within four feet of the lowest water level that can be maintained the wall can be put on the bed rock, tho the concrete may have to be placed under water. However, it is better to use a pump and keep the water down while excavating and concreting.

Without special apparatus it is a tedious and expensive job to excavate under water, but circumstances will often justify the cost. On such small jobs as here considered it can be done by two men, one on a movable scaffold (or board) over the pit, who lowers and lifts a bucket tied to a rope; the other stands in the water and scoops up the soil with the

CORN IS MORE PROFITABLE THAN TOBACCO AND COTTON

bucket. Details of operation will suggest themselves.

Concrete Under Water

If concrete is to be placed under water in such a case seal the irregularities along the bottom of the form by sacking or straw weighted with stone against the outside. Then the concrete can be mixed rather dry, placed in cheap open mesh sacks (or even in paper sacks) and the filled sacks placed under water by hand and tramped gently into a compact mass. The paper sacks will break, of course, but this will do no harm, it will even be better so, if the concrete is not stirred after being in place. There are other ways of laying concrete under water but the preparation is too elaborate for purposes now under discussion.

With such a wall with water inside and earth filling outside the water could be dammed up several feet but it should not be considered a satisfactory scheme for a dam or retaining wall in their true sense.

In case where no rock bottom can be reached, the wall must rest on earth, and may be level all round. Perhaps the best scheme in such a case would be to build the walls above ground in one solid piece (knit together with a few rods of steel made continuous by hooking together along the bottom and top). Then after the concrete is set hard excavate the earth from inside and beneath the walls, allowing the walls to sink as the excavation proceeds. Wells thirty or forty feet in depth are sunk in this way by skilled contractors. Ordinary intelligent laborers should be able to go down four or five feet. The wall can be finally brought level by carefully excavating under the high side and weighting that side if necessary.

Type of Pit

The pit can be made round or rectangular. The round form will be very much stronger but the rectangular form is strong enough. That is all that is needed.

After the base wall is thus brought to place any desired structure can be built on top.

In some especially favorable cases all the concrete work can be done in the open by passing all the water thru a pipe that can be finally withdrawn and the holes plugged.

In building a concrete dam founded on rock it is necessary to take every care to clean the rock, break off all loose scales and get the earth out of all pockets before placing the concrete. Then see that the concrete fills every pore, pocket or seam along the base.

As a rule for a low concrete dam, such as we are discussing, make the thickness of base one-third the depth of water to be held back. The top may be whatever thickness desired.

Another problem relating to springs is the case where a number of small springs may be brought to one reservoir or spring-house. The first information needed is the relative elevations of the several springs. This known, a point must be selected for the spring-house to which the water will flow, by gravity, from all of the springs. If the springs are far apart and in rough country an engineer had better be employed to run the levels and make a plat.

Tile Drain

Then each spring should be brought under control and directed into a tile drain leading to the reservoir. The entrance to the tile had better be underground, where it will never be obstructed, tampered with, nor the water contaminated. The tile should for the same reasons be everywhere underground. A three inch tile will usually be abundantly large. The fall should not be less than one foot in a hundred or about one inch in eight feet.

Sometimes it is impracticable to locate the true spring which is the source of the water forming a marsh. In such a case an investigation may

Properly Supplemented And Fed To Hogs, Yields Good Returns

Corn properly supplemented and fed to hogs in 1930 will be more likely to return a profit than will cotton and tobacco.

"The cost of producing four acres of corn is but little if any greater than the cost of producing one acre of cotton or tobacco," says W. W. Shay, swine extension specialist at State College. "This corn when fed to good hogs will certainly stand a better chance this year of paying a profit on the venture. Therefore instead of planting cotton and tobacco with less than the needed amount of fertilizer, and therefore working two acres to get the amount that one should produce, try putting in several acres of Jarvis Golden Prolific corn this season to be hogged down in August and September."

Half-Starved Hogs

Thousands of acres of Jarvis Golden Prolific corn should be planted for hogging down, believes Mr. Shay. Other thousands of acres of corn should be planted to meet the requirements of the half-starved hogs which are not profitable now but which could be made so if they were properly fed.

Unless the amount of corn grown in North Carolina is increased, some of the hogs now on farms should be decreased. During 1929, eleven county farm agents assisted 45 farmers in keeping complete records on the feed eaten by 918 hogs during periods of time averaging 83 days. The hogs ate 6,852 bushels of corn which was charged to them at the current local market price of \$1.09 a bushel. After paying for all other feeds, including 92 bushels of wheat for which they paid at the rate of \$1.36 a bushel and 135 bushels of barley for which they paid \$1 a bushel, the hogs then paid \$1.50 for each bushel of corn consumed.

Mr. Shay says that these hogs sold at an average price of \$11.54 a hundred pounds and that market conditions are equally as satisfactory during the coming year.

STAND OF CORN CONTROLS YIELD

5,445 Is Standard Number
Of Stalks For Each
Acre

The number of stalks of corn growing upon an acre of land will be one of the important factors controlling the total yield of grain secured from that acre at harvest.

G. M. Garren, cereal agronomist at State College, says that the number of stalks the acre will support depends chiefly on the fertility of the soil and the rainfall during the growing season. One may fertilize well

and yet not have a good stand and thus fail to make a good yield. Usually, rows of corn are planted four feet apart and the hills kept from 12 to 24 inches apart on the row according to the soil fertility. Mr. Garren says that the best yields secured in tests made by the North Carolina Experiment Station were obtained when the rows were four feet apart and the corn planted 24 inches apart on the row. Such a distance will give 5,445 stalks to the acre when a perfect stand is secured.

50 Bushels, Standard

Usually with a perfect stand of 5,445 stalks to the acre and each stalk averaging one good ear, the yield obtained when figuring it takes 125 ears to shell one bushel of grain, will be 43 bushels to the acre. When a prolific type of corn is used, at least 60 per cent of the stalks will bear two ears and thus the yield will then average about 50 bushels to the acre. Fifty bushels an acre is the standard set for corn growing in this state.

To get such yields, Mr. Garren urges growers this year to plant only on a thoroughly prepared seed bed, to plant plenty of sound seed, to use only mature seed and to use those varieties which have proven best yielders in the local neighborhood. When these suggestions are followed and the corn fertilized and side-dressed as it should be, one should more than measure up to the standard of 50 bushels an acre on each acre planted.

FLOWER GARDEN NEEDS DAHLIAS

They Add Genuine Beauty
To The Home And
Premises

The flower garden owner who wishes to specialize in one plant that will add beauty to the home will get considerable satisfaction in growing dahlias.

"This plant was named from a Swedish botanist named Dahl," says Glenn O. Randall, floriculturist at State College. "The person interested in flowers can get genuine pleasure in collecting, growing and sorting the choicest varieties of this flower and in exchanging with neighbors. Clumps of dahlia roots should be divided in the spring after the buds or eyes begin to show. Each tuber must have an eye so the dividing ought to be done with a sharp knife. Usually the buds will come from those eyes located near the point of union of the tuber with the parent stem, therefore it is best to so divide that a small portion of the old stem is attached to the tuber."

Early Cuttings

Where one has a greenhouse, the clumps may be started in soil or sand in March or early April. The cutting obtained will root readily in the sand and may be placed in small pots until time to transplant in the open garden.

Mr. Randall says that light, sandy soils are more desirable for dahlias than heavy soils, yet the heavy clays may be used if liberal applications of decayed organic matter are worked in. Sand or sifted coal ashes may also be used. Dahlias respond to reasonably heavy applications of a good complete fertilizer, such as a 4-8-4 mixture that is worked well into the soil before the tubers are planted.

It is better to plant the tubers a bit late than too early. Get them in the ground so that the plants will come through the soil just after the last killing frost. Only one tuber or a potted plant should be used at one place and the distance between the plants should range from two and a half to four feet, advises Mr. Randall.

DATA TO COVER DAIRY INDUSTRY

To Learn Extent Of Use
Of Mechanical In-
novations

DECREASE TO GO ON?

Farm Population Estimated
To Be Smallest In
30 Years

The 1930 farm census is of special importance in view of the far-reaching economic changes which have occurred in American agriculture the last ten years, says Nils A. Olsen, Chief of the Bureau of Agricultural Economics, U. S. Department of Agriculture. He appeals to farmers to give every assistance to the census enumerators. Approximately 70,000 enumerators will be engaged in taking the farm census in conjunction with the population census which will begin April 2.

"The farm census," Mr. Olsen says, "has been organized to yield basic information which will enable federal and state agricultural institutions to aid farmers in formulating plans for improving the economic position of farmers. In this connection, the census is vital to the research and statistical work of the Bureau of Agricultural Economics as it provides basic data from which to estimate annual farm conditions in inter-census years."

Exact Data

"The 1930 census will make available exact data regarding acreage and livestock expansion in recent years and regarding the various shifts in specific lines of farm production. We will know precisely the extent to which mechanical power has replaced animal and man power on the farms, and we shall be able to form some judgment as to future developments in this field. The farm population now is estimated to be the smallest in thirty years; we should like to know how much longer this depopulation of farms will continue."

"The information that the census will yield on farm ownership and farm tenancy will give an indication as to whether the trend is toward the development of large farm holdings worked by tenants and hired hands—that is, toward so-called corporation farming—or whether despite the reported industrialization of agriculture, the family farm will persist."

Income and Expenditures

"The agricultural census, for the first time will endeavor to secure information regarding farm income, and expenditures for operating equipment. We shall learn the amount paid for taxes, and obtain data concerning mortgage debts. The amount of the mortgage debt, and the amount charged the farmer for interest, commissions, bonuses and premiums will be asked for the farm he owns and operates, and also for other farm land he owns. The need for more complete information on the payment of interest and other charges on mortgage debt is very urgent."

"Data covering the dairy industry will be especially valuable in view of the present uncertain position of that industry. We shall have figures on the number of milk cows and the quantity of milk produced in 1929. The schedules will yield information as to the number of cows milked which are of beef or dual-purpose breeding; quantity and value of milk sold, cream sold, butterfat sold, and butter sold, together with data on the number of cows being milked at the time the census is taken, and the daily production of milk at that time."

Poultry and Livestock

"Complete information will become available on all phases of the poultry and other livestock industries. The number of each kind of farm animals sold, number purchased, and

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"KEEP YOUR FARM AND IT WILL KEEP YOU"