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HARVESTING AND STORING SWEET POTATOES IN THE VENTILATED BANK

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HARVESTING AND STORING SWEET POTATOES IN THE VENTILATED BANK

By J. M. Coruthers

There is a very definite need for the storage of sweet potatoes on the farm. Not only is this true of sweet potatoes, but of all vegetables which lend themselves to storage. If we could be certain of an adequate supply of fresh vegetables at all times, there would be little need for storage. However, this is not the case and we must resort to storage in order to guard against shortage, due to freezes, droughts, wind storms, hail storms, insects and diseases. This publication will deal only with the storage of the sweet potato and some related problems.

Generally speaking, there are two types of storage used for sweet potatoes, namely, the bank and the house. Of the two types, the house certainly is the more desirable, but is by far more expensive to construct. Since this is true, we may say that before one is justified in constructing a house, his supply of potatoes should be large enough to afford some for sale as well as for family use. It is with this idea in mind of providing an inexpensive bank for keeping the family supply of potatoes that this circular is published. At the same time, if one wishes to store in this bank enough potatoes to sell, he may do so by constructing the larger sized bank or better still, several banks of the smaller size.

One often hears the statement made that banks will not keep sweet potatoes satsfactorily. That when the potatoes are taken from the bank they decay if not used at once. Generally, such a statement is only partly true and much of the failure of the potatoes to keep may be due to how they were handled before placing them in the bank. With this in mind I shall discuss three steps in handling potatoes which must receive careful attention if the potatoes are to keep well in storage. They are: 1. The time to harvest. 2. How to harvest. 3. How to handle after digging.

STEP NO. 1

Underground ventilators, twelve inches wide, twelve inches deep, and nine feet long have been completed. Cecil Poole is starting to lay the boards which support the potatoes. Notice the wooden ventilator, dirt, straw and potatoes on hand for later use.

Time To Harvest

First of all one should keep in mind that it is not essential that the frost should kill the vines before the potatoes are ready to harvest. Rather, it is to be preferred that the potatoes be harvested before the frost kills the vines. The frost certainly does the potatoes no good and if the vines are not removed at once, decay will spread from vine to the potato. The practice of deferring potato digging until the vines are killed by frost, no doubt arose in the attempt to let the potatoes mature before digging. However, simple observations will tell us when the potatoes are mature. At maturity vines generally begin yellowing in color. Also, a potato broken in two pieces runs little sap which thickens quickly and remains white on exposure to air and sunlight. If immature, the sap runs more freely and the broken surface turns dark or green.

A good time for harvesting the crop is when the soil and air are dry, the day clear and a moderate wind stirring. Such conditions make ideal weather for quick drying of the potatoes and the sun is not likely to be too hot this time of year.

How To Harvest

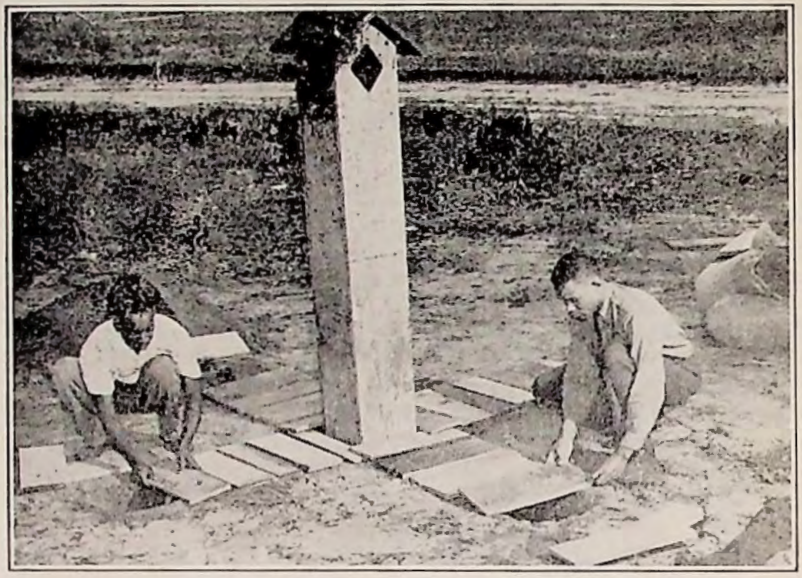
Before plowing out the potatoes the vines must be gotten out of the way. If the vines have been frosted, they should be removed the next day. There are various tools for removing the vines such as the hay rake, the pole, the turn plow and the sled. The writer believes the sled offers the best method, as it cuts the vines on both sides of the row without cutting the potatoes. Construction is simple. Two old mowing machine blades are strongly fastened to the edges of 2"x10" boards. The boards are fastened together in the form of a sled on top of which a man can stand to drive. A cable or chain is fastened through holes in the front ends of the 2"X10" boards for a two horse hitch. The sled is placed astride the row and is pulled, cutting vines six to eight inches from the center of the row on each side. A potato plow with slatted moldboards on both sides is excellent for lifting the potatoes and must be run deeply to avoid cutting the potatoes. A middle-buster may be used, if the potato plow is not available. This method leaves the vines covered with soil over the field and affords some organic matter. Plowing out the potatoes in alternate rows avoids covering many with dirt before they are picked up.

How To Handle After Digging

Careless handling at this point may ruin the potato crop, even after all other care has been exercised. The potatoes should be handled as carefully as eggs to avoid bruising. They should be picked up at once after plowing to avoid sun scald. In the process of handling, any dirt which adheres to them should be rubbed off with the hand. Potatoes that are cut should be placed together in baskets or boxes, the number one's together and other grades placed together in the same way. After placing the potatoes in the containers, they should be left in the shade to dry out a day or two before storing. Cut potatoes should not be placed in the bank. By taking the potatoes directly from the containers and placing them ih the bank, the harvesting operation has been performed with a minimun of handling. If seed potatoes have been saved, thy should preferably be placed in a separate bank.

In taking potatoes from the bank for the kitchen a quantity should be removed each time to avoid too frequent handling. If part of the potatoes are to be sold, they should be the number ones which might be banked separately. Otherwise, all the potatoes, except the cut ones,

may be stored together. The preparation of the bank and storing of the potatoes is shown by steps in seven photographs.



STEP NO. 2

The upright ventilator is shown in position. Thomas J. Smith (left) and Cecil Poole are completing the laying of boards, between which are left openings of about one inch for ventilation. A six to eight inch space remains open at the end of each underground channel.

Location of Bank

The bank should be located on a spot which is higher than the surrounding ground to afford good drainage. Also, the presence of trees, bushes, or buildings on the north side of the bank will serve as a windbreak. If it is not possible to locate a site with the proper elevation, then, we have to provide drainage in another way. The topic below explains what to do in such a case.

Underground Ventilators

The first step is to stake off on the ground the outline for two ventilators which cross at right angles. Each ventilator cuts the other at the half way point. They are twelve inches wide and twelve inches deep. The walls are vertical. The length of the ventilators may vary. The range has been from nine to twelve feet, accommodating from twenty to forty bushels of potatoes. Dirt from the channels may be piled to the sides for later use. In case the ground is lower than desired, drainage may be improved by placing the soil from the trenches between the trenches, then, the slats which are to come later may rest on this soil. If the elevation is increased several inches by this method, obviously, the depth of the trench dug may be reduced by that much. Further drainage may be provided by constructing a shallow circular trench around the base of the mound, after it is finished, then, the water is led away to a lower elevation through a straight channel.

STEP NO. 3

Thomas J. Smith (left), Richard Bryant (center), and Cecil Poole are shown placing covering of dry prairie hay about the base of the bed to receive the potatoes. The covering of hay is four or five inches deep.

Wooden Ventilator

The upright ventilator is constructed by nailing together in flue form, four boards, one inch by twelve inches, or one inch by ten inches. The length is six feet. The upper end of the ventilator is covered by using two boards which fit together in gable form and which project out over the ventilator a few inches to shed water. There is no opening left at the top. Approximately a foot below the top, two small vents are cut about the size of six inches to facilitate circulation of air. These vents are on opposite sides and on the same level. Screen wire is tacked over them to keep out small animals. The ventilator is then placed at the intersection of the underground ventilators, resting on bricks. The bricks are placed two deep on the flat side, a pair resting in the end of each ventilator and supporting the end of each of the four boards of the upright ventilator. Care should be exercised to avoid complete

STEP NO. 4

Cecil Poole (left) and Virgil Hendley are placing the potatoes around the upright ventilator. As the potatoes are placed near the ventilator, they work down to the lower level, forming a well rounded conical shaped pile. They do not extend beyond the ends of the boards covering the underground ventilators.

obstruction of the underground ventilators which are a part of the ventilating system. Place the pairs of bricks in the center of the underground ventilators and the air may pass through freely on each side.

Boards For Underground Ventilators

To cover the underground ventilators boards about one inch thick and eighteen inches long are suitable. Width may vary all the way from three or four inches to eight or ten inches. Place these boards over the channels, leaving openings between them of one to one and one half inches for ventilation. Leave about six inches uncovered at the ends of the channels to be covered by tin or boards later. Boards found around the farm may be sawed into suitable lengths for this purpose.

STEP NO. 5

The potatoes are receiving a covering of about five inches of hay. Cecil Poole (left) and Virgil Hendley are distributing the hay to cover all the potatoes. Ends of the underground ventilators are left open to be covered later .

Straw For The Ground

The area around the upright ventilator is to be covered with straw

or hay to receive the potatoes. The litter should not extend out farther than the boards which cover the underground channels. A layer of four or five inches deep is sufficient. Dry prairie hay, straw or pine needles will do.

Placing Potatoes

Start next to the upright ventilator and carefully pile the potatoes around it. Someone may need to support the ventilator at this point to prevent it from falling, until potatoes are built up enough to support it on all sides. Continue to pile on potatoes until they have worked out almost to the ends of the boards. The pile should now be of definite cone shape around the upright ventilator. The practice has been to allow the potatoes ot extend up as high as three to three and one-half feet on the wooden ventilator.

STEP NO. 6

A layer of three inches of dirt is placed over the straw to protect the potatoes from cold and shed water. At this stage the dirt is packed well with the back of the shovel or spade. Notice Virgil Hendley is placing pieces of tin over the openings of the underground ventilators.

Cover Potatoes With Straw and Dirt

A layer of hay, straw, or pine needles about five or six inches deep is placed over the potatoes. Then, the dirt is piled over the litter to a depth of about three inches. If more dirt is needed for covering than is afforded by the dirt taken from the underground channels, then, care should be taken to go away from the bank for the dirt to avoid water holes accumulating nearby. As dirt is piled on the mound, it is necessary to pack it with the back of the spade or the shovel to make it stay in place and shed water. When cold weather approaches add three or four more inches of dirt for protection. Close all vents in case of extreme cold.

Ends Of Underground Ventilators

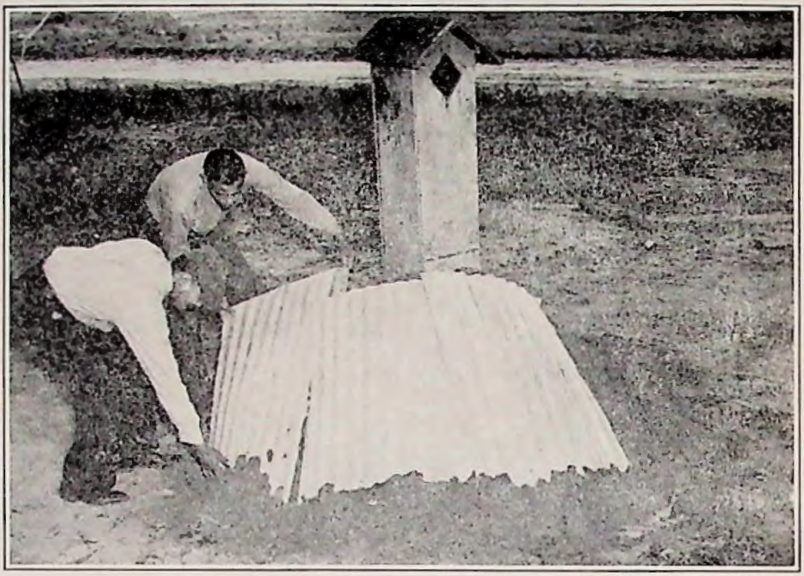
At the ends of the four underground ventilators place two halves or whole bricks on each side of the channel and push slightly into the base of mound. A piece of tin or board just large enough to cover the hole is placed with the upper side resting on the brick and lower side on the ground to prevent water from entering the underground channels.

Cover Bank With Tin Or Boards

For the purpose of shedding water from the bed any type of tin or wide boards may be used to cover the finished bank. Heavy pieces of wood or iron may be placed against the tin or boards to hold them in position. When potatoes are wanted for use, a suitable opening for the purpose may be made at the ground level on the south side of the bank.

Adaptability For Other Vegetables

While this bank has only been used for storing sweet potatoes, it should keep Irish potatoes and the various root crops successfully. Also, I see no reason whatever to prevent the use of this type of bed in storing small quantities of several vegetables together, as is often done on the farm. The size of this bed, I think, could easily be scaled down, if necessary, to meet this need. Boards and upright ventilator may be kept for use year after year.



STEP NO. 7

After the mound has been well packed, a cover of tin or boards will help to shed water. J. M. Coruthers, Instructor, and Cecil Poole are shown placing tin over the finished bank.