

In the Sugar-beet Field.

GERMINATION.—Care must be used to plant at the right time the same as with any other crop. This must be determined by the moisture in the soil, its temperature, and the weather.

In from seven to ten days, if the soil is warm and moist enough, the beets will begin to make their appearance. The real struggle on the part of the grower for a crop begins at this juncture. There are several kinds of emergencies that may arise at this tender stage of the plant; a frost or a hail storm can do them considerable damage, and they may have to be replanted. In replanting it is not good practice to undertake to reset beets extensively.

The germinating period is the anxious time of the beet-grower. A beating rain may crust the surface to such an extent that the beets cannot penetrate it. In such cases valuable results may be produced by using a harrow to break up the crust of the surface. At every stage of the crop the beets must be kept clean and cultivation must begin at the earliest possible moment. Sometimes they are cultivated soon after planting. These first cultivations are accomplished with special beet cultivators, which work several rows at a time. These cultivators are adjustable to the width of the rows, and usually have, for the first cultivation, small, loose, sharp knives running parallel with the surface, and designed to cut off the grass and weeds just below the surface.

BUNCHING AND THINNING.—About the time that the beets show the fourth leaf the bunching and thinning process begins. This is necessary to remove the excess of plants. Single plants should be left in the row from six to ten inches apart, depending on the distance between the rows and the kind of soil. The time of thinning is important. If the proper amount of seed has been used there will be a considerable excess of plants, due to the nearness of the seeds to one another. A still further excess results from the fact that each particular seed contains from one to six germs, all of which are liable to germinate.

It is quite evident that if all the germs in a single seed grow we are liable to have a bunch of several plants standing very close together, often intertwining and forming a network of rootlets. The longer these plants are allowed to grow in this way the more complex, difficult and harmful becomes the process of removing the superfluous plants. If this thinning is put off too long, it disturbs the position of the plants which are to remain, breaks their tender rootlets, and materially and permanently injures them. Every effort should be made to accomplish this thinning as quickly as possible. A little money spent at this stage proves a very valuable investment in the after stages of the plant. A beet-grower should prepare himself beforehand, and be ready to accomplish this work quickly, and not allow it to drag along. With the best of intentions and preparations, he is liable to be more or less hampered by rains and other difficulties, but he should not fail to exert his best efforts to get his crop thinned as soon as possible after sufficiently matured for this purpose.

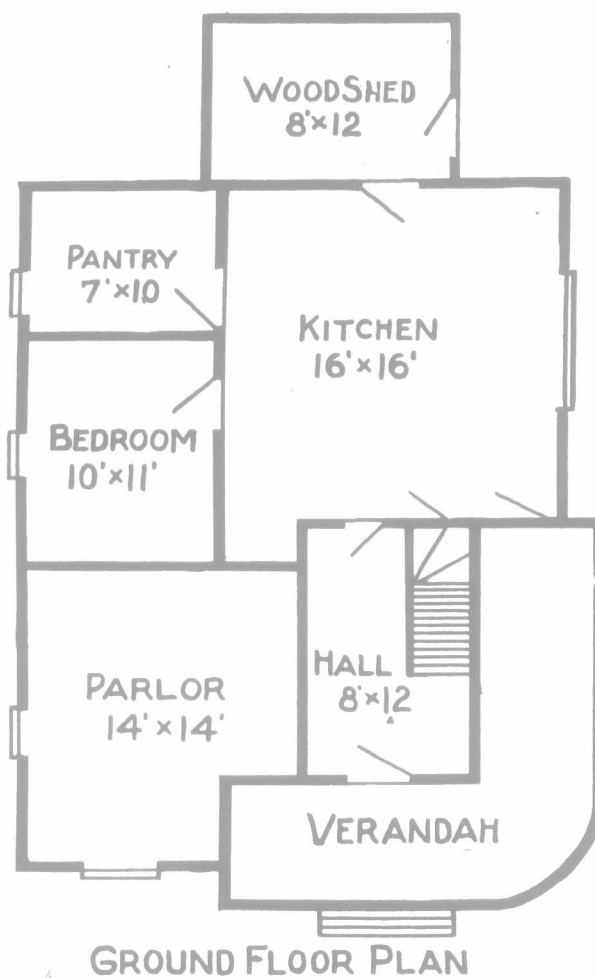
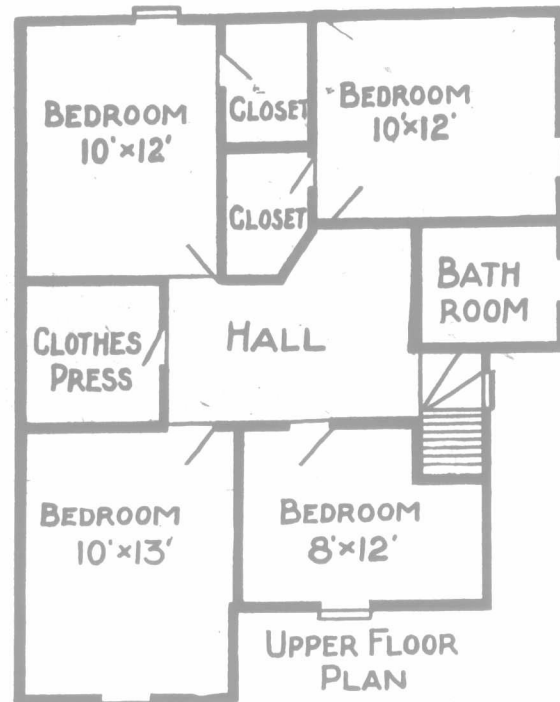
The process is known in the common parlance of the grower as "blocking and thinning." Blocking is accomplished by a person walking along the row with a short-handled hoe, sharp and of sufficient width, cutting out part of the beets so as to leave bunches the proper distance apart for the plants in the row. Thinning is accomplished by a person creeping along on his hands and knees, and with a deft movement of the hands and fingers removing all the plants in the bunch except the one his eye selects as the strongest plant. This all requires agility, attention, and industrious and laborious effort; it is in a sense a kind of cultivation, because all the soil is loosened around the plant, and should be compressed around it again with the hand before going on. Grass or weeds growing around the plants should also be removed.

CULTIVATION.—The methods of cultivation are various. The object sought is the elimination of the grass and weeds, the conservation of moisture, and the loosening of the soil around the plants. Beets must be kept clean. By this term in sugar-beet growing is meant more than in corn growing. It is desired that these beets shall be rich in sugar. The sun and air are the great reagents which accomplish this result in the beets. Weeds and grass must be eliminated from the crop in order that this may be accomplished. Beets are a vigorous crop, and they should have the full sustaining power of the soil, and not divide it with waste plants and weeds.

The cultivation of a beet crop should begin the moment the soil is broken up for planting to beets. If the land is broken in the fall, it should be harrowed immediately, possibly rolled. It should be allowed to rest for a while, giving the weed seed time to germinate and come up; then it should be cultivated and harrowed again. In the spring, after stirring, it should be cultivated and harrowed several times until ready for planting. After planting, it should be gone over with a "weeder" or harrow as soon as the weeds and

grass begin to appear. These harrowings, etc., kill weeds, conserve the moisture, and prevent the soil from baking. A cultivator should be brought into requisition at the earliest possible moment, and the services of the "weeder" or harrow continued alternately with the cultivator, even after the plants are up. Cultivation should be continuous from the moment the beets come in sight until they become so large that it is impossible to continue.

After the first cultivation the horizontal blades of the cultivator are replaced with elliptical blades, which penetrate the soil three to four inches and loosen it, making a dust mulch which conserves the moisture in the soil and promotes the growth of the plant. The cultivator is usually drawn by a single horse or mule, and is



manipulated by a single laborer, who usually cultivates two or four rows at a time.

It can be seen that this part of the work is not particularly laborious. One man and one horse can cultivate many acres of beets in the course of the season. The number of cultivations given a crop varies according to the exigencies of the case. If it is a dry season, cultivation should be continuous in order to maintain a dust mulch and conserve the moisture. If the beets are excessively weedy, hand hoes should be used. The number of times the beets should be hoed also varies. The crop should be kept absolutely free of weeds; the ground should be kept soft and in good condition. If the land has become foul, the more hoeing the better the results. If the land is fairly clean, but little hoeing will be necessary.

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A Negro Potato King.

What can be done by ceaseless industry, indomitable perseverance, and—may we add, not least, though last—good business ability, has seldom been more strikingly exemplified than in the career of Junius G. Groves, Edwardsville, Kansas, a negro, of whom Booker Washington writes in the May issue of the Outlook. Mr. Groves was born in Kentucky in 1859, the child of slave parents. A few years later, however, under the proclamation of Abraham Lincoln, he became free. During his boyhood he received very little schooling, yet the little he got inspired him with a thirst for knowledge, which he gratified at every possible opportunity. In 1879 he went to Kansas, and had when he reached there just ninety cents in his pocket, and hired with a farmer for forty cents a day, boarding himself. Mr. Groves' "career," however, began on the auspicious day upon which his employer gave him a plot of nine acres of land to work on shares, supplying him with a team, seed and tools, on condition that he should plant, cultivate and harvest the crop, and keep as his reward one-third of what was made. Although his capital only amounted to 75 cents, he determined to marry, and he and his wife set up housekeeping in a little shack on their small domain. Together they worked the land, putting in three acres in white potatoes, three in sweet potatoes, and three in watermelons; and at the end of the year found that they had cleared for themselves \$125. From this small beginning they went on, first renting, then buying, the first farm of their own consisting of 66 acres. From this time their progress was constant and rapid. Little by little they added to their land, according to their means. To-day they own 500 acres of the best part of the Kaw Valley, land easily worth from \$125 to \$250 an acre, and live with their family of eleven children in a fine building, built at a cost of \$5,000, which contains fourteen rooms, bath-rooms, a private gas plant and water system, and a local telephone. Upon the farm there is also a well-painted barn that cost \$1,500, a smoke-house, and a warehouse in which 6,000 bushels of seed potatoes are kept during the winter. Mr. Groves has also had constructed a private railway track, which leads from his shipping station to the main line of the nearest railway. Besides, he owns and operates a general store.

Several fine orchards are scattered over Mr. Groves' farms, but potato-growing is his specialty. Last year his potato crop amounted to 72,150 bushels of white potatoes, averaging 245 bushels to the acre; a quantity estimated to be 12,150 bushels more than any other individual potato-grower in the world produced. Besides those raised on his own farm, he also buys and ships potatoes on a large scale, exporting them to every part of the U. S., to Mexico, and to Canada. He has educated himself so that he can now analyze and classify the soils on his farm, and so guide himself as to the application of the fertilizer especially suited to the various soils. He uses only the latest improved cultivators, potato-planters, potato weeders and diggers, and although fifty laborers are employed by him during the busy season, he uses machines wherever available.

His fame rests on his success with potatoes, his good name in the Valley on things more enduring. He is described as a man of tact, keen insight, scrupulous honesty, good financial sense, and courteous manners. He is a good churchman, and is very particular as to the education of his children, three of whom are receiving training in the Kansas Agricultural College. In short, as his neighbor, Senator Taylor, says of him, he is "one of the best men, white or black, in the Valley"—a name even more to be coveted, surely, than that of "The Potato King."

Plan of Farmhouse.

You will find enclosed an illustrated plan of house, which I think would answer the purposes of the average farmer.

It is a house of moderate dimensions, and can be built complete with cement cellar and a furnace installed for about \$1,000 or \$1,100.

You will notice the absence of a dining-room, which some seem to think so necessary. Now, in a small family this room is not really needed, as it makes more work for those in charge, and, generally, if there is a dining-room the parlor is never used except in case of visitors. So I think it better to have a bedroom instead of a dining-room, with a spacious kitchen and pantry, and a woodshed at the rear for use as a summer kitchen in summer.

You will also notice there is ample room upstairs for hired help and visitors.

WALTER E. WELLS.

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