

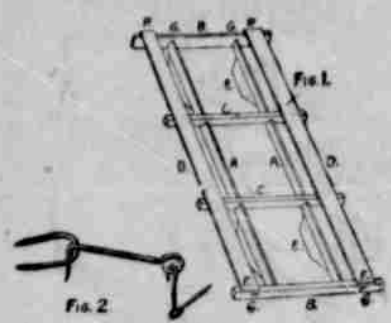
FARM AND GARDEN

A HAYRACK.

A Knockdown Arrangement That Saves Heavy Handling.

The hayrack here presented was originally figured and described in the Ohio Farmer, the chief merit claimed being the convenience and ease with which it can be placed upon or removed from the wagon.

A are the silks 2 by 5 inches, of any good wood and of such length as desired, only in the ends of the silks should be heavier. Two short pieces of the same size should be bolted edge-wise to the undersides of the silks at E, E, where they rest on the wagon, and two cleats on the outside to fit snugly before and behind each bolster stake. Cut tenons 2 inches square and 2 1/2 inches long in the ends of the silks. Make the end pieces B B from the same sized timber and long enough to make the rack suitable width. Cut mortises in these to fit the tenons on the silks and just far enough apart so that when in place the silks will fit snugly between the stakes. The cross pieces C C are 2 by 4 inches, of the same length as the end pieces, with a half inch notch in them to drop over the silks and a small cleat on top of the all on each side of them to hold them in place. The bolts D D are 10 inches wide and of the same length as the silks and lie flat on top. There should be a tenon cut on each end of these bolts two inches narrower than the board.



A BAYRACK.

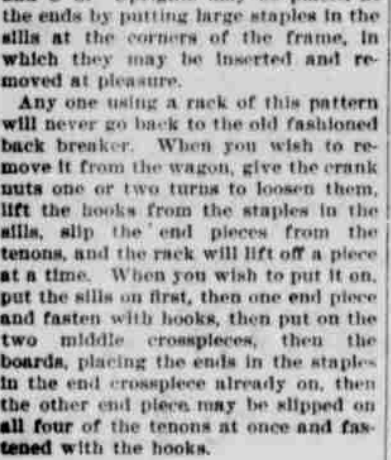
Now go to the blacksmith and have four staples made of three-eighth inch round iron of proper size to go over the tenons on the ends of the bolts at F F and clinch on the undersides of the crosspieces B B. They should not be tight on the boards. Also have made four staples and four hooks and eye bolts as in Fig. 2. The nut on the eye bolt should have a crank, as shown in Fig. 2. Put the staple in the sill on the outside near the end and the eye bolt through the end piece at G in such a manner that when the nut is tightened on the bolt it will draw the hook tight in the staple. When the parts are all in place and the four nuts screwed tight, the rack is perfectly solid.

In order to suit wheels of different heights the blocks E E may be varied in width, or blocks may be placed under the boards on the crosspieces B B and C C. Uprights may be placed at the ends by putting large staples in the silks at the corners of the frame, in which they may be inserted and removed at pleasure.

Any one using a rack of this pattern will never go back to the old fashioned back breaker. When you wish to remove it from the wagon, give the crank nuts one or two turns to loosen them, lift the hooks from the staples in the silks, slip the end pieces from the tenons, and the rack will lift off a piece at a time. When you wish to put it on the silks first, then one end piece and fasten with hooks, then put on the two middle crosspieces, then the boards, placing the ends in the staples in the end crosspiece already on. Then the other end piece may be slipped on all four of the tenons at once and fastened with the hooks.

Kaffir Corn.

A variety of Kaffir corn of which much has been heard of late is the black hulled white Kaffir. The Kansas station recommends this and the red



VARIETIES OF KAFFIR CORN.

Kaffir and says: For seven years we raised the red. The black hulled white was then tested, and from 1896 to 1908 the two varieties were grown side by side, the red giving an average yearly yield of 37 bushels per acre and the black hulled white 43 bushels per acre. Kaffir corn heads very considerably in form and compactness. We preferred from long, closely compacted heads. Kaffir corn is a warm weather plant, makes a slow early growth and should not be planted until the ground becomes warm. We usually plant immediately after corn planting is completed.

PASTURE FOR HOGS.

Red Clover and Alfalfa—Cleaning the Grainfields.

Common red clover is one of the most desirable forage plants for hogs and the one most commonly used in sections where it has been tried. Throughout western Oregon, Washington and parts of Idaho red clover will grow to great perfection. Even the irrigated sections of these states farmers are learning that red clover is a valuable crop. It is often mixed with alfalfa, giving good results. It will start quicker than alfalfa and helps to furnish a variety which is always desirable. Red clover will not flourish as much succulent food as alfalfa, or remain green so long.

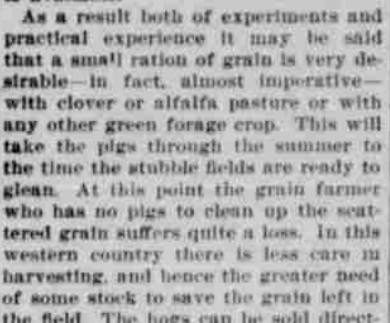
In some parts of the grain regions of western Washington and northern Idaho clover is claiming considerable attention. In the celebrated Palouse region, which is noted for its grain product, red clover is gradually gaining a foothold. In the vicinity of Moscow, Idaho, clover yielded last season from 13 to 18 tons of green forage per acre at a single cutting. These figures were obtained by careful weights and measurements in the field. A crop of clover like this would furnish one of the

FARM AND GARDEN

POTATO TROUBLES.

Beetles, Tip Burn and Their Remedies—Benefits of Irrigation.

Colorado potato beetles are especially active before the plants come into bloom. They are destroyed by arsenical solutions (Paris green, etc.). The insects are numerous and omnipresent that some damage is practically unavoidable, but since their attacks largely precede the critical period in the development of the potato, the plant recovers rapidly and the damage to the crop is small, providing timely use is made of the remedies. Halted has found that the bordeaux mixture alone may more effectively protect plants against this beetle than does the poisoning with Paris green. This is of course attributable to its action as a deterrent. The bordeaux Paris green mixture is more effective than is Paris green alone.



POTATO LEAF EATEN BY TIP BURN.

Flies frequently cause more loss to the potato than do the potato beetles. This is largely because their attacks are most severe at or soon after the critical period in the development of the potato. When badly eaten at this time, especially if the weather is dry, the plant never recovers. Arsenical poisons alone do not afford adequate protection. The combination of arsenical with bordeaux mixture does serve to keep off these pests. Experience has also shown that bordeaux mixture alone is sufficient protection in practice.

It is necessary to make several applications of arsenical poisons to the potato plant during June and July in order to give protection against the potato beetle. The commercial preparations used, Paris green, London purple, etc., are largely insoluble. A small per cent of soluble arsenious acid is always present, however. This poison rarely penetrates the unharmed epidermis to do harm, but serious damage often results when it comes in contact with mutilated tissues, such as insect injuries, rents in the leaf, etc. The tissue die and blacken for some distance about such spots.

The full benefits from arsenical poisons can be obtained with usually are made and such as will cause little or no injury (e. g., 1 pound in 100 to 200 gallons of water). The slight remaining danger is eliminated when lime is added to the arsenite or when, as is preferable, the arsenite is applied in bordeaux mixture. In such cases the soluble arsenious acid is made insoluble by the lime and so rendered harmless.

"Tip burn" is characterized by the death of the potato leaves at their tips and margins, which portions dry, blacken and roll up or break off. This trouble occurs during the dry hot weather of midsummer. Tip burn is not caused by parasitic fungi. It is attributed to unfavorable weather conditions surrounding the plant, with insufficient water supply. As prevention, efforts should be made to sustain the general vigor of the plants. The only thing that can be done in addition is to irrigate in times of extreme drought. Irrigation of potatoes is rarely practiced in the eastern United States.

SMOOTH BROME GRASS.

Growing in Repute For Dry Climates—When and How to Plant.

Smooth brome grass is a vigorous, hardy perennial, with strong, creeping root stocks, valuable alike for hay and pasture.

The land should be fall plowed, disked and harrowed thoroughly and the seed sown in the spring except in California, Oregon and Washington and probably in the southern states, where it is preferable to sow in October or November. Sow broadcast at the rate of 18 to 20 pounds per acre and harrow in thoroughly.

The yield of hay varies from 1 to 4 1/2 tons per acre, according to climatic conditions, amount of seed sown and fertility of the soil. In quality it is equal to timothy, both in regard to palatability and nutritive value.

It is essentially an early spring and late fall pasture grass, producing a very compact sod and a heavy growth of leaves. All kinds of stock eat it with relish.

It has remarkable drought resisting qualities and is perhaps the most suitable grass for the dry regions of the west and northwest. When once established it will withstand a temperature of many degrees below zero without being injured.

Some farmers have reported that they had succeeded in sowing the seed with a drill, but the large majority abandoned it after a trial and sowed broadcast. The seed is very light and chaffy, weighing only 14 pounds to the bushel, which makes it difficult to feed satisfactorily through an ordinary seed drill. The most common plan is to sow broadcast by hand at the rate of 18 to 20 pounds per acre and harrow in thoroughly with a peg tooth harrow.

If proper seed drills could be secured, there is a saving of seed, a better chance for germination and a less likelihood for the grass to become hide-bound owing to its spreading root stocks than when sown broadcast.

Tip Burn of the Potato Leaf.

States outside of small gardens. We have seen marked benefits from watering such garden plots. In the western states, notably in Colorado, immense crops of potatoes are raised upon irrigated land.

In the eastern states proper attention to the accumulation of a store of humus in the soil by the more frequent growth of clover, frequent tillage during drought and proper spraying with bordeaux will reduce this damage to little practical importance.

The foregoing are among conclusions drawn by Professor L. R. Jones from investigation of potato troubles at the Vermont station.

Growing Field Beans.

According to the old saying, "The poor to grow white beans," it would seem that almost any kind of soil would answer for the cultivation of field beans. While it is true that beans will do fairly well on soils of less than medium fertility, they will nevertheless pay better when grown on moderately fertile soil, says Iowa Homestead. The best soil for the white bean is a light, warm, dry one and somewhat sandy. On heavy soils or rich ones or those that are highly manured the tendency is to produce a heavy growth of vines and foliage rather than seed, whereas on a comparatively light soil greater productiveness of seed and earlier maturity are secured.

The beans should be plowed some time before planting in order to give the seed an opportunity to germinate, so that they may be destroyed by the harrow. This will very materially reduce the labor of cultivating the crop. Wet lands are objectionable, and if those inclined to be moist must be used they will be better to plant in ridges. The soil should be finely pulverized before seed is put into the ground.

FARM AND GARDEN

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