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PAPERS.
 Progressive Farmer, State Organ, Raleigh, N. C.
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 Our Home, Revere Dam, N. C.
 The Populist, Lumberton, N. C.
 The People's Paper, Charlotte, N. C.
 The Vestalite, Concord, N. C.
 The Plow-boy, Wadesboro, N. C.
 Carolina Watchman, Salisbury, N. C.

AGRICULTURE.

Again we protest against a large cotton and tobacco crop. Diversify.

Lime is a good thing, but the old complaint still holds true, "Lime with out manure, makes the father rich, the son poor."

Cows fed with ensilage may eat almost as much grain as without, but they will pan out a great deal more milk, and also keep in better condition than on dry food alone.

Give attention to plans to prevent your land from washing into gullies. Terraces or ditches made right will greatly aid you. Don't plant a crop without them if your land is hilly.

Hog and hominy is a time worn expression, but the Southern farmer who pulls through the hard times easier than his neighbor will be the one who does not neglect his hog and hominy crop.

Hay is an important item on the farm. A good quality as well as quantity is essential on every farm. No forage can be made cheaper than hay. Our Southern farmers can improve their method along this line.

It very rarely pays to buy different kinds of chemicals to mix together, unless it can be done on a large scale. A little makes more bother than the profit will be from using the fertilizers thus mixed. But as stable manure is often deficient in mineral plant food, it will pay to buy phosphate and potash to mix with it. The mineral fertilizer thus used is much more effective than if applied alone.

There are not many now who can distribute grain or grass seeds evenly by the hand and get the right amount per acre. It is likely that the art will be wholly lost. There are broadcast seeders which will do the work quicker and better than the best sower by hand could ever do. The drill nowadays does most of the grain sowing, the only difficulty with it being that when the soil is very mellow the seed is put in too deep. Rolling after the seed bed is prepared remedies this difficulty. It is also a good plan to roll down the land which is to be seeded by hand. The harrow or cultivator will cover it deeply enough.

PLOWING AND HARROWING.

The plow in principle may not have changed much in 2000 years, as has been stated, but individual plows have been greatly improved, so that the draft is much less and the labor for the operator greatly reduced. Scientific principles have been studied, and the plow has been so constructed that resistance is reduced to a minimum, while doing the work most effectively. The most recent improvement is the self-sharpening plow point, consisting of layers of edges, so that as one wears off a new and sharp edge is presented instead of a dull surface. This makes the draft much easier and saves the bother and expense of resharpening. A great variety of implements have been tried as substitutes for the plow, but they have not proven satisfactory under all conditions.

The depth of plowing has been the cause of almost endless controversy. In the corn belt, as a rule, moderately deep plowing has given most satisfactory results, all things considered. It is obviously unwise to make any great variation in the depth to which any one field is plowed during one season, for by suddenly lowering the plow two or three inches, a cold, raw earth is thrown out on top. This is unsuited to the best development of the plant, and until the air and sun have effaced it for a couple of years, it will not be in the best condition. The object of plowing is to get the upper layers thoroughly loosened and pulverized, so that the plant roots can readily penetrate them. The loosened surface acts as a sponge for absorbing and retaining moisture until needed by the growing crops. It does not matter whether the upper surface be turned or not; nor does it make much difference by what means this breaking or loosening up is accomplished. If shallow plowing and subsiding will answer the purpose follow that practice. If, however, this condition cannot be secured except by deep plowing, it usually will pay to plow deep. On very wet low ground deep plowing is obviously unnecessary, as the retention of moisture does not have to be looked after so carefully. In sandy or very loose soil deep plowing is not so essential, as the roots can easily find a passage and the land is in a condition to retain large quantities of water. The above applies more particularly to the preparation of land for wheat and corn. Shallower plowing will answer very well for oats and grass seed. Three inches is usually sufficient for these latter crops, while for corn and wheat six or seven give best results.

At one time the various riding and wheeled plows were not universally liked, as they were considered horse killers. This heavy draft feature has been eliminated somewhat, and as the work is done better and as horses are so cheap, it is certainly advisable to buy them. Human strength is so much more valuable than that of the horse that it would pay to have an extra animal or two rather than exhaust the farmer or his hired man.

The preparation of the land just before planting demands more and more attention, as the soil becomes less productive and drouths more frequent and severe. Ordinarily the cornfield is harrowed until the surface is level, little attention being given to the condition of the soil more than two inches below the surface. With several seasons of severe drouth, however, it has become necessary to so pulverize and compact the plowed portion that large air spaces do not remain, allowing the excessive penetration of air and consequent detrimental evaporation. This thorough preparation is best accomplished by means of disk or acme harrows, ordinary toothed harrows and drags. The first named penetrate much deeper than the ordinary harrow, break up clods and eliminate air spaces. If the field is disked once or twice, then harrow with a heavy smoothing or straight toothed harrow, it will usually be in first class condition. A drag will do much to pulverize clods on the surface and compact the soil but it does not pulverize the lower layer of the plowed portion. Rolling has much the same effect and is a valuable aid when the weather is quite dry, but during the wet season it may do injury by compacting the surface and causing the top layer to bake. Evaporation then takes place very rapidly and the crop is seriously injured at the outset. As soon as the grain, if it be corn, appears, above the surface, cultivation must begin and the upper layers be kept in a finely pulverized condition, so that they may act as a mulch.

It has been demonstrated during the past few years that the more complete the preparation the better the crop. The cultivation then can be greatly reduced, and the results more satisfactory. Many a farmer will say that he cannot spend so much time in preparing his soil, and that such attention to the more scientific methods cannot be given. This is a fallacy which must be abandoned as the years go by, for the changing conditions demand more thorough work and greater attention to details. During the great drouth of '94, the farmer who thoroughly prepared his land had a fair crop and in many cases a good one, while the man who neglected thorough preparation reaped a small harvest.—F. M. HEMMER, in American Agriculturalist.

A KIND OF FARMING THAT WILL PAY.

One point needed to be emphasized at this time: Farmers should inquire more closely into the wants of local markets, and try to meet their requirements. It is surprising to what an extent the interior towns depends upon large cities—perhaps 30 or 50 miles away—for products which should be supplied by nearby farmers. In the more thickly populated parts of the country, fresh vegetables, poultry, eggs, meat and dairy products are always in demand, at fairly remunerative prices, yet how little of the money paid for these commodities goes into the pockets of farmers, who should receive it. In fact, it is no uncommon sight to see farmers buying for their own tables vegetables which by a little forethought might have been raised on the farm and made a source of profit.

We are not advocating the idea that the general farmer should be a market gardener, but a well provided garden or truck patch should be an adjunct to every farm. It should be an unfailing source of good things for the home and a profit to its owner. The farmer engaged in growing staple crops has little time to devote to other matters; but at present low prices, might it not pay better to grow less wheat, corn and potatoes, and give more attention to producing choice vegetables, to improving and increasing the flock of poultry, and to substituting scrub stock with improved breeds of cattle? Early and late vegetable, fresh eggs, poultry and choice butter are always in good demand, and farmers should produce these commodities, at least to such an extent as to supply their own families and the demands of neighboring market or mining towns.—American Agriculturalist.

THE COMING COTTON CROP.

In discussing the cotton situation the Vicksburg Herald alludes to the fact that the cotton exports are not falling off, and the cotton mills are running on full time. The short crop is running out rapidly, and unless sales are reduced October will exhibit the lowest stocks held in many years. Under the prevailing conditions the Herald thinks the market ought to advance, and that as it does not advance there can be but one explanation to the curious situation, which is that buyers anticipate an increased acreage in cotton during the current year, which, if it results in a 10,000,000 bale crop, will again depress prices to 5 cents, probably, notwithstanding the exhaustion of the old stock.

HORTICULTURE

HOW TO HAVE BEAUTIFUL PANSIES.

Pansy seed sown now in pots or boxes in a warm room or hotbed, will, if properly cared for produce blooming plants all summer. The seed should be scattered very thinly and covered not more than one eighth of an inch deep, then pressed down with a piece of board and kept moderately moist all the time. When the plants are large enough to be handled they should be picked off about two inches apart, and when danger of severe frosts is over, plant outdoors about twelve inches apart each way in a position where they are sheltered from the midday sun. In dry weather they require a good deal of water, and an occasional watering with liquid manure will help them wonderfully. All faded flowers must be cut off at once else they will produce seed and detract a great deal of strength from the plant. With pansies, as well as many other plants, the oftener the flowers are cut off, the more new ones will be produced. For early spring blooming, the seed should be sown in August outdoors in well

prepared seed beds. During hot, dry weather it is best to shade the seeds from the direct rays of the sun until they have germinated, which will be in about ten or twelve days. The soil can hardly be made too rich and deep for pansies.—American Agriculturalist.

CLOSE ROOT PRUNING IN TREE PLANTING.

Last spring I tried root pruning with peach trees in a limited way, the soil being a very sandy loam, and the result was so satisfactory that, in planting my new orchard I shall reduce all the peach-tree roots to inch stubs. It is not necessary to say that possibly under other other conditions than such as exist at the South, this system might not do so well; its advantages are so great when it will do that it is worth the while of those who have fruit trees to plant to try it in a small experimental way. In pruning the cut should be made with a sharp knife, the cut sloping from the underside of the root to ward its point. The cut end callosities and from this callus roots branch. It is claimed that these new roots tend to grow at nearly right angles to the cut surface, or downward, while the tree planted with whole roots extends its roots more nearly in a horizontal line, where drouth can reach them. Besides the deeper roots given, it is further stated by those who have tried this plan that the trees make a more vigorous and uniform growth, and that they are much more sure to grow. Where the roots are close pruned, the stem should also be cut down to about a foot in length. When ground is prepared, the planting is done by simply thrusting in a spade, leaning it forward, dropping in the tree or vine behind it, removing the spade, and treading into the soil firmly.—Judd Pierce (Alabama), in American Agriculturalist.

THE DAIRY.

A CALIFORNIA DAIRY.

Correspondence of the Progressive Farmer.

In 1888 my father, R. G. Sneath, purchased 110 acres of good land near Menlo Park, Cal., 30 miles from San Francisco, for a country residence, and secured seven Devon heifers and one Devon bull, from the most reputable herd here. They were beautiful looking animals, dark red in color, finely formed but rather undersized. They had the best of care and abundant food, but failed at the pail and were too small for first class beef.

POULTRY YARD

POULTRY IN A CALIFORNIA ORCHARD.

Plum Trees and Plump Birds.

Here is something new in the way of poultry keeping, and it comes all the way from California. We are indebted to the Pacific Rural Press for the idea. Mr. J. W. Osborne, of Orange, Cal., has a large plum orchard of your g trees, planted 23 feet apart each way. That orchard needs two things—cultivation and feeding. Mr. O is a poultry man, and it occurred to him that Mrs. H. would make a good harrow and a good wet nurse for these trees. He turned 1,000 hens into the orchard to labor at random, some of the trees would be neglected just as they would be if he hired a dozen horses to cultivate and turned them loose to cultivate whatever they saw fit. The only way to make Mrs. H. do the rough work, is to let her down to it; so he decided to put the hens into 28 houses so made that they can be pulled along from place to place.

The general arrangement of the houses is as follows: The front of the house proper is covered with wire netting—with the back roofed over for protection in stormy days. In this the hens scratched and play, a quantity of straw being kept there for them constantly. Back of this is a small shed for roosting and laying. This is opened at the front, but has a roller curtain which may be easily dropped down as protection in cold or stormy weather. Back of this house and built around at the side, are narrow runs covered with wire netting. The bottom frames of these houses are stoutly made and firmly joined together. As will be seen in the picture, the whole thing is provided with wooden shoes or runners for hauling the houses ahead.

A wooden track runs along the entire front of the houses and off to where the food is kept. There is a turn around at the corners so that it is an easy matter to load up with grain or water and pass rapidly along the entire front, dealing out the portion for each house. We understand that these hens are fed almost entirely on dry grain. As a rule, not over 15 hens are kept in each house. The part of the house covered with wire netting is kept filled with straw, into which the grain is thrown for feeding. The ground under the roosts is spaded up every third day in wet weather and every week in dry seasons. In the wire runs, just back of the roosting house, horse manure is thrown for the hens to work over. The result of all this is that the straw, manure and hen droppings are all thoroughly worked

into the soil. After this has been thoroughly done, the tracks are taken up and carried ahead a distance equal to the length of the houses. Then the houses are slowly pulled ahead, one at a time, between the rows, so that they rest on new ground. The track is laid in front of them, and the whole process of feeding and scratching in manure and straw is repeated. And so, through the season, the hens work on, laying their eggs and feeding and cultivating the trees. It is stated that two men and a horse will move 28 houses and tracks in one day, besides caring for 1,000 other hens.

This system is the exact reverse of Mape's "Hens by the Acre" scheme, and it seems a little singular that this intensive method of poultry keeping should come from such an extensive country as California—Rural New-Yorker.

The droppings of poultry are rich in plant food, but they need to be fermented to make it available. They will heat very readily when put in a barrel, but the top should be lightly covered with some absorbent, to retain the ammonia that will be developed. If used fresh the excrement is acrid, and will burn the plants and roots that it comes in contact with. Guano is only the fermented extract of bird excrement, comes from birds that feed mainly on fish, and is richer in phosphate than that of birds fed on grain. A little fine bone dust mixed with the hen manure will make it heat faster, and add to its value after the fermentation is completed.

THE DAIRY.

A CALIFORNIA DAIRY.

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We have some 2,000 out of 3,000 acres seeded to rye and orchard grass row in fine condition, although some of it has been seeded for 20 years. Besides this feed, we purchase annually about 1,000 tons of mill and other feed, about 1,500 tons of hay. We feed mostly barley and bran, but for economical reasons we have fed large quantities of wheat, corn, beans, peas, beets, carrots, squash, oil cake, etc. We grind our grain on the farm that we may be sure that it is sound and wholesome.

All our fields have springs of pure water running by gravitation into large troughs, and not a well or pump on the place. The land is rolling and well sodded, and cattle are never in the mud in the worst weather. We only stable our animals about six hours daily, during feeding and milking, as our winters are mild and the grass is then at its best. Each milker milks and cares for a string of 30 cows and does little else at \$30 per month and board.

We have had to purchase many cows every year to keep the milking barns full, because we have not the land to raise enough calves, and herein has been our greatest difficulty.

Most of our milk dairymen raise but few calves; the remainder goes to the hogs at an early date. They cannot sell them to the stock raisers because they are not suitable for beef, while the stock raiser is interested in beef alone and cannot furnish good cows to the dairymen, and thus the two are widely separated and of no use to each other, for economical reasons, they think.

There is opportunity for both Some of the largest stock raisers here have been of late following the course we have pursued, and now there is in the market quite an increased number of cows of the first and second Holstein cross. These cows bring from \$40 to \$50 each, while the common cow brings from \$20 to \$35.

Some of our largest stock raisers now keep dairies more for the purpose of breaking in heifers and raising better bulls than for dairy products, as they can sell a good three year old cow for twice as much as a steer of the same age and weight, and good young bulls for much more. They find that young stock must be well cared for in their youth in order to secure weight and vitality in their maturity.

The Holstein seems to be the only breed, at present, that will produce, through crossing with other breeds, a general purpose cow that will be profitable for both meat and milk. Such is the experience on this coast so far as I know, and it is a great satisfaction to think and believe that the appalling waste in the destruction of young animals, because there was no place for them through the methods of men, will be in the future more in harmony with the laws of nature, and that their young lives will soon be worth the saving.

San Francisco, Cal.

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