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Agriculture.

LEVEL VERSUS FALLING TERRACES.

Mr. Blackn... ies to Mr. Coolman's Letter Last Week.

Correspo... The Progressive Farmer.

Mr. Co...man is right when in his rejoinder he says that the mode of of land terracing is an important matter. It is not only the most important subject now, but the most important one that ever has been or ever will be before the hill-tiller.

NATURE'S LEVELING PROCESSES.

It is an unalterable decree of fate that in the fulness of time the hills and mountains shall be leveled and that the sea shall devour all things. Every shower that falls to some extent carries out this inexorable mandate Downward, ever downward, is washed the earth. Gradually the rocks are exposed, crumbled by agencies and ordered downward. Man is as helpless to wholly stay the hand of nature in thus disposing of her own as he is to arrest the motion of the planet on which he finds his brief home and his grave. Still he can over the small area over which he has control, and for the hurried moment that he is master, lessen the operation of this law of fate. At any rate, he can with some approximation restore natural conditions in this respect; and by this means get more food or more tinsel. For while only philosophers may bother themselves over the ultimate submersion of the world, the practical man is deeply interested in the slow but ceaseless means by which this is being brought about. He is interested for the reason that this attrition, this washing off takes first of all that outer film in which alone he can grow bread—the soil. And it not only takes first the soil, but it takes first of all the essence of that soil—the elements of fertility.

THE VALUE OF TERRACING RECOGNIZED

The future of man, certainly the future of the dweller in hilly or rolling regions depends upon his success in conserving the soil. Mr. Coolman is much alive to the importance of all this, as I am. As I understand it, we also agree as to the most effective mode of effecting this wished for end. We are only at variance as to whether it is practicable to carry level terracing to the lengths necessary to attain the utmost benefit from it.

I believe that Mr. Coolman will admit that a hill side in which the system of level terracing that I practice and advocate has been carried out will gain in fertility faster than one with falling terraces, which carry off the water faster than the level terrace, though, of course, very much slower than it would go with no terracing at all. What he questions is the practicability of maintaining, or rather of establishing—for once established and the terrace crests strengthened by settling and one year's—or more—growth of grass and weed roots, I presume that he would consider them safe even on land as hilly and sandy as that he has to contend with.

BUT WHICH IS THE BEST METHOD?

Now while I have no doubt as to the entire practicability and immense and far-reaching results of level terracing, there may be, and doubtless are, regions in which it presents such difficulties that they cannot be at once overcome with the implements at hand. Mr. Coolman's region seems to be of that nature, And if not thoroughly done, the grave results that he prophesies would surely follow.

Water in its wild effort to get down hill is a dangerous thing, it is true. Yet it is not quite as hard to curb as Mr. Coolman thinks. If land slopes much, a three-foot fall from one terrace to another will not place the lower thirty yards apart As a rule they are much closer. Mr. Coolman is mistaken when he thinks that a ten minutes' rain would overflow a terrace two feet high As a matter of fact, a ten hour rain will not.

HEAVY RAINS AND LEVEL TERRACING—

Let's see. A terrace two feet high presupposes a corresponding depression above the terrace made in shifting dirt down hill to build the terrace. Say that this depression is only twenty feet broad That depression represents a basin to hold the water. Say that this depression averages twelve inches deep throughout its width of twenty feet. How many inches of rainfall falling on the space of thirty yards above it will it hold without overflowing? Arithmetic says nearly *three* inches. A prodigious rainfall for ten hours. This allows nothing either for what the soil would absorb, which in a long rain would on average soil be probably one inch.

The soddier the soil the greater would be the amount of water to soak in. I find that owing to the fact, it is as easy to maintain terraces on soddy as on stiff soil. The stiff terrace holds better, but the stiff soil above the terrace absorbs less water and leaves more to come against the terrace.

A PRACTICAL TEST.

I need only repeat that in the floods of May, 1901, I had new and therefore necessarily weak terraces that stood day after day for weeks an enormous downpour of rain. Some of them were on drifting, sandy hills that sloped fully 22½ degrees; that is, one fourth the way up from horizontal to perpendicular. In a few instances I believe the slope was not less than 30 degrees.

Such abnormally unfavorable conditions coming right on the fresh, soft terraces gave some trouble as was apprehended. But few, if any, properly run, and completely finished gave way.

If a very wet season like that of 1901 come while the terracing system is only partially carried to completion some of the crop rows in the depression above the terrace will "drown." But every gallon of water that is held there to soak in means sediment to enrich the soil. Finally, when after some years the terracing process is completed and the sides of each hill and slope converted into a series of stair steps, the flow to each step tilting a little up hill, all rains but the very hardest would every drop of them be absorbed. If there was more than the terrace with the depression on its upper side and the ridge around its lower side could hold, then it would flow over the terrace, not in a torrent, but a sheet even and thin in proportion as the terraces were correctly run and properly built.

STOP WASHING AND LEACHING OF FERTILITY.

The benefits that would accrue from a thorough and general system of level terracing are great and manifold beyond conception. Not only would the washing away of soil and even the leaching out of fertility be practically arrested, but every drop of rain that fell, instead of robbing the soil of fertility, would have the tables turned on it, and be robbed of more or less of the ammonia it gathered in its downward flight through the air. This ammonia the soil would absorb.

CONSERVE MOISTURE AND FIGHT DROUTHS.

Nor is that all or nearly all. The conservation of moisture, effected by the absorption of so much rainfall, keeping all arable land more or less moist instead of hard, washed and dry as is now the case in summer, would greatly lessen the effect of drought when it came. But would drought be as apt to come? Would not the conservation of moisture, far surpassing in the aggregate that of any system of forest reserve practicable, materially lessen the frequency and duration of drought?

WHERE FALLING TERRACES FAIL.

As before admitted, the falling terrace is far better than none. The objection to it is that it is only a makeshift—a half-way measure It is not progressive. It cannot, like the level terrace, be made more and more effective every year till perfection—practically speaking—is attained. Where level cultivation of crops is followed, which is, I believe, conceded to be best, and which is essential with strawberries, my crop, the water has a clean sweep downward across the crop rows till arrested by the terrace. This means a great loss of soil and a still greater loss of fertilizer, which is carried down hill with the water to a greater or less extent off with the water as it flows along the depression above the terrace on its way out of the field.

I have for fifteen years tested the falling terrace and for three years the level terrace. While there has not yet been time to perfect the level system, which is only attained where the land between each terrace is converted into a level, or rather a flat surface with a little tilt up hill, still the superiority of the system in the conservation and improvement of soil is already manifest.

LET EACH FARMER MAKE A SMALL TEST

A sincere desire to better the condition of the farmers in our hilly counties prompted me to write the article on terracing. Of the correctness of the theory and the vast benefit that would follow the perfection of the level terrace system, there can be no question. Still it will be best for each farmer to adopt it in a tentative way—to adopt a little of it at the time, doing thoroughly what is done, and extending it as circumstances justify.

O. W. BLACKNALL.

Vance Co., N. C.

Washington dispatch—The epidemic among the horses in Swan Quarter continues and is nearly as bad as when the mosquito was doing his work. State Veterinarian, Dr Tait Butler, says the trouble is located in the brain. It attacks horses very suddenly and unless a remedy is found Hyde county will lose all its horses.

FARM NOTES FROM WARREN.

Correspondence of The Progressive Farmer.

The new year has come with several beautiful days of sunshine The farming people around here have started off, it seems, in good earnest, determined to do their part in the way of winning success this year. Some have already started their plows to running.

It seems from the many conversations that we have with the farming class, that an overwhelmingly large crop of tobacco will be planted this year.

The chair factory which has recently been started in Warren is buying much oak and hickory timber. While it may not net very much money to the owners of the timber, it is giving employment to a class of people that probably would have suffered but for this labor.

There is another call for labor around us, and that is for hands to get cord wood. With both of these and saw mills, our people will tide over until farm work opens up more plentifully. RURALIST.

Warren Co., N. C.

The unsatisfactory price of cotton this season and the high price of other farm products should teach our farmers, who have not already learned it, an important lesson—that of producing, as near as possible, everything consumed on the farm. With corn at a dollar a bushel, meat and lard 11 to 12½ cents per pound, oats 75 cents per bushel, peanuts 2½ to 3 cents per pound, and other products except cotton in proportion we cannot afford to raise cotton at present prices to buy these things.—Roanoke Chowan Times.

PROFITABLE FARMING.

Probably the largest crop ever made on the A. B. Nobles farm, near McKendre church, was made last year by Frank Gorham. On 225 acres he made 215 full bales cotton, with abundance of corn.

He had a cropper that probably exceeded any one in the county, or State for that matter. His name is A. E. Edwards Mr. Edwards had only a one horse (mule) crop, and here is what he harvested:

On 17 acres in cotton, 27 bales, averaging about 400 pounds; from 6 acres in tobacco he sold $567.76; on 8 acres in corn, 32 barrels of corn and three big stacks of fodder were gathered.

If any one man can beat Mr. Edwards' record The Southerner will be pleased to hear from him.—Tarboro Southerner.

HARRY FARMER'S TALKS.

LIX

Correspondence of The Progressive Farmer.

Mr. C.—"I tried your plan last year (1901) on planting and fertilizing sweet potatoes and such a crop I have not had in my thirty years farming! One quarter of an acre made more than two acres planted after the old way."

RAISING BIG SWEET POTATO CROPS

We told Mr. C. that if he would use sulphate of potash 100 pounds, acid phosphate 200 pounds, and good manure 50 loads to each acre, a crop of 300 bushels might be expected. I told him to try it, and if it did not pay that I would pay for the fertilizer. We had tried it too many times not to know the result. We should say here that a load of manure here means a dump cart load, which is about one-third of a ton.

Mr. A. planted some new land late in sweet potato cuttings, on part of the land he used a high grade of commercial fertilizer at the rate of 600 pounds per acre. Result on no fertilizer, 50 bushels per acre; fertilized, 250 bushels per acre. Yet thousands of just as good men as these are plodding along in the old way and losing money every year.

SMILE WHEN MEAT IS HIGH.

Just notice the effect this commercial fertilizer had on that new ground which was full of humus. Do you see the point? Plow that old field a little deeper every year and get all the vegetable matter that you can in the soil and then apply your guano and make crops that will astonish your neighborhood. Make your barns and smoke houses full so that the higher corn and meat goes the broader will be the smile on your face.

GET GOOD SEED—IT PAYS.

Your cotton crop the past season proved the advantage we often find in the use of improved seeds. We had a good variety of cotton, but the new seed were recommended so highly that we decided to try them. The result was that it put five dollars in our pocket for every one we expended for new seed. This is not the first time we have made money this way. Now, do not write a lot of letters to us for seed, as we have none for sale. Besides, we do not propose to give any free advertising in these columns.

READ FARM PAPERS.

Brother farmer, all the success we have had in farming was obtained by reading agricultural journals and the bulletins from the Experiment Stations. They are printed expressly for the farmers' benefit. A study of these during these long winter nights will help up all in our work the coming spring and summer. The Bulletins cost you nothing excepting the one cent paid for a postal card to order them on. You are taxed to support these papers; then do not feed your horse and let him stand up in idleness while you walk to town and lug your fire wood on your shoulders. Make him work for you.

HARRY FARMER.

Columbus Co., N. C.

A DEMAND FOR LEADERS.

I have been much impressed, the last few months, by the great demand for young men of education, practical experience and energy by the agricultural labor market. Requests for foremen, superintendents, experimenters and teachers at the present time greatly exceed the supply. Is not this a hopeful sign? It is to be traced, it seems to me, to improved sentiment in our agricultural community, the changed attitude of capitalists to agricultural enterprises, and to the appreciation on the part of the business man of the fact that a trained foreman in agriculture, as in many other industries, is essential to successful farming Another feature worthy of note, and a very important one, is the increase in the number of agricultural schools. Not only are some of the academies and high schools considering the question of adding agriculture to their courses, but agricultural high schools are being equipped in many parts of the country. All this bespeaks great things for the future of the farmer.—John Craig, Cornell University.

Live Stock and Dairy.

THE LIVE STOCK INDUSTRY IN THE SOUTH.

V.

Building Up the Dairy Herd.

Correspondence of The Progressive Farmer.

The yield of the North Carolina milk cow annually is about 2,000 pounds; that is the average for each animal in the State. This means that we have a great many that produce less than this quantity of milk and a great many others that produce above the average quantity.

BEGINNING TO GRADE UP.

It is possible to take any grade in this aggregate and develop it to profitable production. This is unnecessary, however, because every cow is not needed for immediate improvement. Only a few may begin this year to develop and improve the land; consequently they will have the advantage in getting for their beginning stock fairly good animals or those that produce between 2,000 and 4,000 pounds of milk.

This beginning stock should be healthy animals, with good coats of thin fine hair and fine soft skin; have a marked wedge shape as described in the last article; and show a fairly good dairy type. One can readily secure in any locality, good milkers, that not only furnish good quantity, but a good quality of milk as well. Let this be the stock to start with. They are grades or mongrel stock, perhaps, but because they are good milkers they will be profitable from the beginning.

I would urge the beginner to

KEEP A RECORD OF THE MILK,

so as to know exactly what each animal is doing. This will then be a valuable aid for the selection of future animals for the herd. The record will tell which are the best animals in the herd. You are anxious to know this for the reason that offspring from the best milkers will themselves inherit the characteristic of producing good returns in milk.

The great factor in building up the dairy herd from common stock lies in

THE BULL THAT HEADS THE HERD.

If he comes from a line of good milkers and good butter producers, his offspring will have that same ability. Inasmuch as one half of the future herd will contain the blood of the sire that heads the herd, it is safe to say that the bull then is half the herd. I would rather have five poor cows and an exceptionally fine, well bred and purely-bred bull to start a herd than five exceptionally fine cows and a poor bull. Under no circumstances should the dairy farmer use a grade, or cross or scrub bull. To do so would require years of labor and pains to counteract this evil influence of such breeding.

BUT AS TO THE COWS:

While I would always advise the purchase and selection of a pure-bred sire with performance back of him, I would not advise the beginner to purchase pure bred cows. They are in the first place too costly for the average farmer and too delicate for the beginner to handle. This would be the suggestion that follows: Go about your neighborhood and purchase the better class of good milkers that are available. Take them home and keep a record of the amount of milk they give; then test with the Babcock tester to determine the quantity of butter fat in the milk that each gives. Then get a bull; a good one, a pure-bred one; and one that had a mother that gave a large quantity of milk. *Put your money that would go to fancy cows in a good bull with performance back of him.*

WHY THIS PAYS BEST.

Let me illustrate the result of such a plan: Suppose you have a good cow that produces 3,000 pounds of milk each year. According to the law that like begets like, the offspring of such a cow would also give 3,000 pounds of milk. And such would be the case if the bull used had also come from a dam that produced 3,000 pounds. There would be no improvement to follow. But suppose instead of the 3,000 pound bull, you had secured one that came from a line of breeders that produced annually 10,000 pounds of milk. There would be no 3,000 pounds stock resulting then, but a resultant force between 3,000 and 10,000 or something like 4,000 or 5,000 or 6,000 pounds in the offspring. Thus the future breeding would increase in the same way.

This is no theory, but plain business, common sense. If we apply it and practice it along all lines of live stock, it would mean millions upon millions of dollars to the farmers in our State. It would develop the dairy industry like magic in a few short years; the lands would improve; farming would become exceedingly profitable; the boys would remain on the farms; the farm homes would once again take on the culture, the splendor and regal aspect that was theirs not long since.

WHERE MONEY IS TO BE MADE.

It follows then that the building of a herd of dairy stock is the use of a good sire with milk inheritance in his blood and then the selection of offspring from the most profitable cows. This practice is easy and simple. It is not the result of much expenditure of money. I know of no field of activity that offer greater opportunities for young men than this. You can start on little capital: a few acres of land, a few cows and a good bull. Your herd doubles each year and becomes more valuable. Weed out the light milkers and poor butter-producers; and keep the best stock. Not many words are needed to show the force and the truth of the plan and the suggestions.

We need 10,000 dairy herds in this State, so do not fear that there will be no room for you.

CHARLES W. BURKETT.

N. C. A. and M. College.

An old bee keeper says that the best thing for a bee sting is to rub on a little honey, which will relieve the pain at once. It is also said that if a little honey is rubbed on the hands the bees are much less liable to sting the person handling them.

COWS AT THE PAN-AMERICAN.

As might have been expected, the distinctively dairy breeds came out ahead in the test at Buffalo. Guernseys came first with a profit of $220 37 in butter for six months. Jerseys were a close second, with $214.51 in butter profit for the same period. The Shorthorns, which some of our beef friends would have us think dairy animals, showed up but $164.77 in the same time, and the Dutch Belted were at the tail end of the list of ten breeds, with but $111 96 to their credit. Guernseys and Jerseys are bred for a special purpose, and they "get there;" the Dutch Belted cattle are bred for a fancy. They get that particular band of white around them and that has nothing to do with the purpose for which cows are bred, and, of course, they do not "get there" in a dairy contest. Even machines that are contrived to do two kinds of work seldom do either as well as the machines that are built for one particular job, so the cow that is bred for a particular purpose will always accomplish that purpose better than one which is neither one thing nor another.—Practical Farmer.

The farmer's wife with many family cares and therefore little time to devote to poultry, should make the production of eggs her chief aim. Keep a big flock of hens the year round, no matter if some of the hens are two or three years old. The healthiest breed I know is the Brown Leghorn.—F. M. W.

Many make the mistake of buying ing what they do not need, because they can get it "cheap" That which one does not need is dear at any price. Others will answer the ads. found in trashy sample papers received so often through the mails Great pay for agents. Free this and free that. Guessing missing words, etc. They are one and all swindles and I do not understand how seemingly intelligent people can be so easily caught by what is manifestly a humbug. These firms are just wanting the names of fools to sell them.—Theo. Cranz, Fisher, Ore.