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[Reprint from the June, 1903, issue of COTTON, published at Atlanta, Ga.]

Growing Three Bales of Cotton to the Acre and How It Is Done.

By G. H. TURNER, of Burgess, Miss.

The Story of How One Farmer Makes Three Bales on a
Single Acre of Ordinary Land, With Directions
for Those Who Wish to Follow His Example.

In round numbers, on a conservative basis, the South plants about 25,000,000 acres in cotton each year and gets about 10,000,000 bales, thus taking two and a half acres on an average to make one bale of cotton. When we consider that on an average all of this land is capable of making at least one bale of cotton to the acre under ordinary careful farming, we realize what an enormous amount of useless labor is expended annually in the cotton growing states from the direct cause of ignorance.

For a number of years, on ordinary land, I have made 4,200 pounds of seed cotton per acre, or three bales, in other words, and knowing the ease with which this can be done, if the average farmer only "knows how," has led me to write this little book, giving my fellow cotton growers the benefit of my experience and observation. Had I known what I know now thirty years ago when I commenced growing cotton, the knowledge would have been worth many fortunes to me over and over, and now that I give this experience to others my one hope is that the cotton growers of the South will make practical use of it and profit thereby, as this experience is now profiting me.

One of the reasons for the past extremely low average in cotton production in the South per acre is owing to the fact

[Mr. Turner is a large, influential and successful planter of Burgess, Miss., whose well known success as a cotton grower is recognized not only in his own State, but in the entire cotton belt of the South. Anything along this line, therefore, coming from his pen, cannot fail to command the interest and attention of every farmer in the South who is engaged in raising cotton, and who earnestly desires to improve his methods and materially increase his yield, while at the same time incurring comparatively immaterial extra expense.—EDITORS.]

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that not one farmer out of ten ever takes the trouble to study his own land, and learn what it needs in the way of fertilizer. Another reason is that cotton growers are content to plant one variety of cotton on all kinds of soil, when it is so essential that different varieties should be planted on different soils.

Take the average cotton planter in the South today and he never stops to ask what kind of fertilizer he should buy or what kind of seed should be planted on this field or that one. He buys a brand of fertilizer because some one else buys it, or it is recommended by his merchant. He plants the same seed on all his fields and even plants the same seed for years without selecting improved varieties.

This is all wrong, and so long as it remains so the South will continue to grow cotton at the rate of one bale to three acres, instead of making three bales to one acre, which I have been doing for years, and which the average farmer can do himself.

My farm, like thousands of others in the South, is outrageously poor, but a portion of it is fairly strong land. On this farm I have considerable poor upland, yellow, or so-called mulatto clay. It is on this land that I obtain my largest yield of cotton, but to do this I use a complete fertilizer, by which I mean that I adapt the kind of fertilizer that the land naturally demands for cotton growing. Directions for the different fertilizers for the different soils I will give later.

In beginning your cotton crop bear in mind that thorough preparation of the soil in the winter and the early spring is very essential to a large yield of cotton. Plough the land very deep and put it in thorough tilth before you plant. This is half the race. Cotton does not take much work after it is up and starts growing. It then needs only surface scraping. That is why the negro is such a success as a cotton grower. He is too lazy to plough deep in working cotton, and the plant is one that needs only light culture. Therefore I give this caution to have the land well prepared before the crop is planted.

To get the best results in cotton growing rotate your crops. Cotton is a clean crop, by which we mean that it is



SECTION OF COTTON FIELD PRODUCING 4,200 POUNDS SEED COTTON PER ACRE, MANAGED ACCORDING TO DIRECTIONS HEREIN GIVEN.

generally cleaned in the late summer and no growth is left on the land except the cotton plant itself, which does not leave enough on the land to help feed the fertilizer the following year.

In selecting fertilizers each farmer must be largely his own judge, as to the needs of his land, but a few general rules will show any one of ordinary intelligence how to use fertilizers intelligently.

If the stalk growth of your cotton is excessive use a fertilizer in which the percentage of phosphates is large. This will largely increase the fruiting capacity of the stalk, and give you the very best possible result.

If the stalk growth is weak, puny and spindling, and the foliage of a pale, sickly, yellow color, use a brand of fertilizer that is made up with plenty of potash in it, which stimulates the stalk growth. If the bolls are small and inferior and show a disposition not to mature fully, potash is the one ingredient that will remedy the evil.

These rules simplified mean that where your land is such that the stalk needs stimulating use nitrogen and potash largely, and where you need more fruit depend largely on the phosphates.

If you wish to hasten the maturity of the crop, so as to escape frost, use phosphates; but if you wish the cotton to keep on growing late you will reach your end by the liberal use of potash.

The average cotton grower, who will keep these simple rules in mind, cannot make a mistake, for he will well know from experience just on what field he needs more stalk growth, or on what field this stalk growth needs retarding. It is the following of these rules which has enabled me to increase my yield of cotton on the same land from 1,000 pounds of seed cotton per acre to over 4,200 pounds.

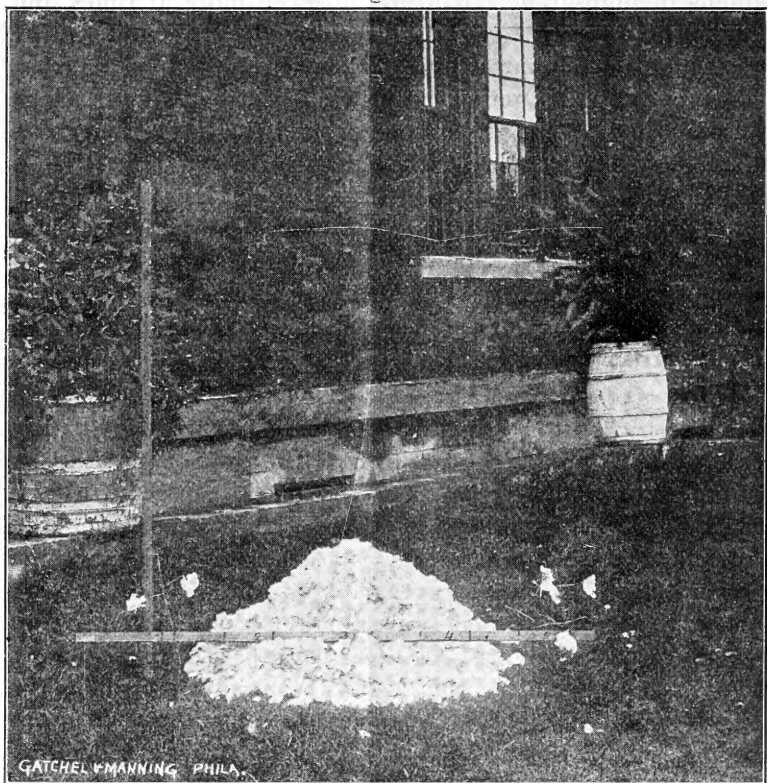
In striving for the best results in cotton growing and to make two or three bales to the acre, of course the farmer must fertilize heavily, but it pays best. It will not do to depend on 200 pounds of cheap fertilizer per acre; you can never reach the best results in that way. I use as high as 1,000

pounds of high-grade fertilizer, and even more at times, but in doing this I get the very best results. I have found that by increasing the amount of fertilizer, say from \$7 to \$9 per acre, I have been able to get an extra bale of cotton, which I claim is a good investment, when you consider the fact that it takes no more to cultivate a well fertilized acre than one that is poorly fertilized.

If you find that your land is of the heavy alluvial character and contains much feeding substance and an excess of nitrogen, depend entirely on the phosphates as a fertilizer, and on such land you can use the largest quantity, and be sure of getting the very best results.

One of the great mistakes which many farmers make in the South in cotton growing, and in fact with many crops, is that they apply all the fertilizer at the time of planting, or before, and then leave the crop to grow or mature with that, failing to give it another application. A moment's thought will tell any sensible man that this is wrong. Every cotton grower knows that every year his cotton puts on enough squares, or shapes, to make three or four times as much as it does, but that the plant sheds the greater part of these shapes. What is the reason for this? It is want of strength in the soil. The shedding, which always goes on in July on crops not properly fertilized, comes from a weakness which the wide-awake farmer will remedy. This is done by applying fertilizer to your cotton as you work the crop. By adding this strength to the soil at the cotton plant's roots, you enable it to retain the shapes. In other words, you give it strength to hold its fruit.

Here lies one of the great mistakes which the majority of cotton growers make. They never think of feeding the cotton plant but once. This is in the early spring. Sometimes the fertilizer is put in the ground in February. By July, when the plant needs strength to keep the fruit it is taking on this fertilizer is exhausted. It has been used up by the young plant, or washed away by the spring rains. Just when the plant needs strength most it has least. This is the time when the proper fertilizer should be applied as you work the crop,



NO. 1.—COTTON FROM SMALL AREA WHERE NO FERTILIZER WAS USED.

putting it close to the roots of the plant as you plough it, then covering with a light furrow. If your plant has plenty of stalk at this stage but needs more shapes or is shedding its shapes, use a strong phosphate brand. If the stalk is small and needs pushing, use a brand that has a good percentage of potash in it and also plenty of phosphates.

It is this simple feeding of the cotton plant at the proper time that helps me make three bales to the acre. This could not be done in any other way that is practical.

In planting my crop I give the plant good distance, both in width of rows and in the hill. You cannot crowd cotton and get the best results. Consider the quality of your land.



No. 2.—COTTON FROM SAME AREA AS NO. 1, BUT FERTILIZED AND CULTIVATED AFTER IMPROVED METHODS DESCRIBED HEREIN.

You know about what size stalk you will get. Thin the crop according to the quality of your land.

In this connection I wish to say that a great many farmers allow their cotton to grow too thick in the row, often allowing two stalks in the same hill. A little care in this simple matter will add several hundred pounds of cotton to each acre, as the best results cannot be had where the plants are too close.

Years ago I used to make an average of 1,000 pounds of seed cotton per acre and thought I was doing well. On twenty acres I usually got about fourteen bales. I commenced

along the lines I have indicated in the foregoing pages, and the result was soon 2,000 pounds per acre. I continued to add the right fertilizer to the land, to apply it at the right time and it was not long before my crop went beyond 4,000 pounds per acre, and all done by the simple methods which I have tried to make plain to my friends in the business in these pages.

It is a simple thing to do, but to do it you must be watchful and observant. You must watch every part of every field. If you have a part of one field that is wearing away, plant peas on it, or haul in humus, or rest it. Do something to bring it up to the average.

When you plough your lands in early spring don't be afraid of getting too deep, and when you apply fertilizer don't feel that you are throwing away money. You are simply planting money that will come up a hundred fold.

Study each part of every field and put just the kind of fertilizer on each it needs most. Don't be content to apply the same fertilizer all over each field. One part will likely need a different brand from the other.

When the plant begins to fruit in July then add a light application of fertilizer at each working. If you find the plant is holding the fruit, then withhold the fertilizer until it shows signs of failure. Then apply and continue to do so until you feel that your cotton plants have taken on a full crop, and will be able to mature same in good time before the coming of frost.

I know a great many farmers will say that to grow as much as three bales of cotton per acre is what they call "fancy farming," but I know from experience that it is practical farming. If I am anything I am practical, and I believe in getting the most out of your land you can. I used to think it was impossible to raise two bales of seed cotton per acre, but I found by experience that it was an easy matter not only to grow that much, but more.

I am honest in the belief that the great majority of cotton growers in the South, if they will follow the directions I have here laid down in the simplest language I know how, can in-

crease their average of cotton per acre at least 100 per cent. in a single year, and if they will continue to follow the directions given the time will not be far away when every acre that is planted under the directions given will yield an average of over one bale per acre, instead of one-third of a bale as at present. The experiment is well worth trying. Plant fewer acres and make more; that should be the policy of the cotton growers of the South from this time on. It will pay every one who starts out to follow this rule.





SECTION OF COTTON FIELD PRODUCING 1,300 POUNDS SEED COTTON PER ACRE WITHOUT FERTILIZER, BUT "CULTIVATED" AFTER THE IMPROVED METHODS DESCRIBED HERIN.

A NEW ERA DAWNING IN COTTON CULTURE. CHECKING COTTON.

G. H. TURNER.

Scarcity and general unreliability of farm labor, together with the comparative low prices obtained for the fleecy staple, even if no other causes were in operation, will force a change, whether said change is agreeable to the bulk of the cotton raisers or not.

Each year sees a greater number of farm hands being drawn off to work in cities, in factories, warehouses, on railroads, to do odd jobs generally, or to still further increase the already large army of vagrants and loafers who wear out the pavements on street corners and unceasingly watch for a chance to pick up something belonging to somebody else.

Things seem to be evening up all around. While our cotton raising brethren are engaged in studying the labor problem, our city friends seem to be just as busily engaged in studying the vagrant problem, the only feasible practical solution of the problem in either case being to render ourselves independent of either or both. This means the abolition of the share system, or cropping on the shares, and substituting therefor the hiring of hands by the year. It also means the gradual, or possibly speedy, colonization, and consequent deportation of the negro. Again, it means a more systematic as well as more intelligent, skillful and scientific system of culture in the future than he has been heretofore. It means the more rational fertilization of the cotton plant and the saving of labor, time and money by the cultivation of cotton

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instead of continuous drill culture.

Hoeing is an element of cost excessive to bear. Under the present system of cultivating in drills the hoe is often used unnecessarily, while in cotton, as in all other crops, the hoe should be used as little as possible. Grass is an

implacable and very persistent enemy of the cotton planter. Grass can be more speedily, more cheaply, consequently more profitably as well as far more satisfactorily, eradicated by the many really good and efficient plows and cultivators that are to be found in the market than could possibly be done by the most determined and persistent use of the hoe.

Markham's picture of The Man With the Hoe, although not intended to represent the Southern cotton raiser, will answer very well the purpose of representing the past and present era, as compared with the future, of cotton culture. The back-breaking hoe will largely have to go, and Cuffy and Dinah, together with all the little pickaninnies composing the trash-gang, will be relegated to the rear and will have to take a back seat along with it.

We do not make the slightest pretensions to being a prophet or even the son of a prophet, yet we unhesitatingly assert that it is just a question of time when check culture of cotton will be the rule and drill culture the exception; it is only a question of time, and a very short time at that, when practicing drill culture will be considered as showing a lack of intelligence, business tact and up-to-date ideas on the part of those who willingly adhere to such antiquated and obsolete methods. Drill culture of cotton is proof, positive as holy writ, that the man practicing it has but little actual knowledge of the plant he cultivates; it proves that he has no confidence in it, no confidence in his soil, and no confidence in himself as a cotton raiser.

The man who crowds cotton in the drill vainly believing that a multiplicity of stalks per acre means a multiplicity of bolls and a correspondingly large yield per acre, shows an utter ignorance of the very first principles of successful, profitable cotton culture.

Three feet by eighteen inches, and but one stalk in a place, is as close as cotton should be allowed to stand, even on the very poorest of land. Where land is so poor that cotton cannot be profitably cultivated thereon, when given that distance, it is too poor to be planted in cotton at all; better sow it down in cow peas.

Cotton is a plant that will readily adapt itself to circumstances. If crowded, it may have six to twelve bolls per stalk, while, when given due distance, it may just as easily have sixty to six hundred bolls per stalk.

We have just passed through a period of drouth lasting two months and twenty-one days; yet our cotton at this writing, August 18th, will easily average one hundred bolls per stalk, with no telling how many more in perspective.

One difficulty in checking cotton is the liability to missing hills or stalks, through clumsy animals, clumsier and still more careless hands, and clumsy and careless methods generally. The remedy for this is obvious; dispense with the services of clumsy hands, avoid clumsy and careless methods and ways of doing business, and put a premium on carefulness and skillful methods, whenever and wherever exhibited by the employee of the farm.

In other words, encourage a good hand when you get one, by paying him for his goodness, being sure at the same time to let him know what you are paying him extra for; then discourage carelessness by striving to correct a careless hand, and if he fails to be corrected pay him off and discharge him on the spot; never pay a careless hand for careless work; it simply encourages carelessness.

Another hindering cause to the checking of cotton is the universal inequality of the fertility in soils, the cotton growing quite large in spots, and very much undersized in other spots looking somewhat like a series of oases in a desert.

We know of no system whereby lands may be permanently improved faster than by a judicious fertilization of cotton, when checked and cultivated on the intensive plan.

This is the very place for a man to exercise his skill in fertilizing, putting his nitrogen and potash freely on the poorer portions of the field, and his phosphates everywhere, but putting them on most liberally in his best soils, and more especially where cotton inclines to make excessive growth of weed. The poorer spots in a field may receive a dressing of stable manure with manifest advantage, may be sown down to cow peas broadcasted in the cotton at last working

the whole field sown to crimson clover, or intercultural fertilizing practiced, until the entire field becomes of approximately the same degree of fertility throughout.

In checking cotton the land should be liberally fertilized where fertilizers are needed, thoroughly prepared, cotton planted with a planter in a continuous drill, the stand secured, then checks made by running across rows with sweep, heel-sweep or so-called "scrape," expanding-harrow or cultivator, being sure the plants are thinned to final stand by June 1st to 5th. Cotton should stand on poor land, about three feet by eighteen inches; on medium land, making, say about a bale per acre, three by three feet; on good land capable of making one and a half to two or more bales per acre, four by four feet apart would probably be a good distance, and where long and medium limbed varieties are planted never but one stalk in a place. "Limbless" or very compact "cluster" varieties might be left two, three or four in a place, according to the discretion and judgment of the cultivator, the proper distance of the hills or checks apart being determined in each and every instance by first the productive capacity of the land, and second its ability to retain moisture. Of course where the growth is very rank the distance to be allowed must be greater, and where the weed growth is medium to small it may be proportionately and correspondingly less.

It is a fact that has been long established by accurate experimentation and experience that cotton planted on the square, or equal distances apart each way, will turn out more cotton per acre than when planted any other way. What folly then to fool away both time and money in hoeing a continuous row in order to get a stalk three by three or four by four feet apart, or to annually cut one's self out of a half-crop or possibly more, by leaving the cotton too thick as is now almost invariably done throughout the entire cotton belt, the width of a hoe and two, three or four, and even more stalks in a place being the rule.

Under ordinary circumstances and with ordinary culture the yield of either cotton or corn would be practically about

the same, the one advantage being that in either case the crops checked are invariably more economically cultivated than when drilled; second, check culture admits, facilitates and though not necessarily or essentially so, seems to almost demand a more intensive system of culture, said more intensive system being invariably followed by increased satisfaction, largely increased yields and consequent largely increased profits.

There is no profit in a crop of any kind unless said crop is above the average. To have large crops, we must have better farming. This better farming does not mean more work, but better work, and better work means that the brain must be used to facilitate and enhance in value the labor of the hands.

There is something more in farming that is imperatively necessary besides hard work and plenty of it. A knowledge of the business is of vastly greater importance; it is possible to make the brain save the hands. It is also possible to so unite brain and brawn, mind and muscle, as to double, treble and quadruple the value the work performed by said muscle, by doing better and more profitable work, and doing that better, more profitable, hence, more valuable, work, to better advantage.

The secret of success in cotton raising is no exception to the general rule, that the grand secret of success in any and all callings lies in the know how.

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