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NOTES ON EUROPEAN AGRICULTURE,

BY A CHARLESTONIAN.

NUMBER FIVE.—CONCLUDED.

THE GRASSES.

1. *The Dairy*.—It is well known that Charleston, Savannah, Augusta, Columbia, and all our large towns in the South, are but scantily supplied either with good milk or fresh butter. A number of families in Charleston make a comfortable support by keeping four or five cows each, purchasing the grass which is brought from the country, and selling milk. When the cows become dry, they are sold to the butchers and others are purchased.

I would propose that the following experiment be made by some enterprising, industrious man, who is not ashamed of his profession, and will take a pride in attending personally to his business.

Let a farm of one hundred and fifty acres be procured in the vicinity of, from three to six miles of the city. Let this farm be divided into suitable lots for the cultivation of grasses and vegetables to serve as food for the cattle. Let one field be planted in herd's grass (*Dactylis glomerata*), which answers our climate very well, as I have had it flourishing in my garden for the last fifteen years, and have frequently cut it as early as February. I would prefer planting the roots, which are easily divided, setting them out a foot or eighteen inches apart. The seeds vegetate pretty well, but the plants when young are often destroyed by more luxuriant grasses. Let a small field be planted with the roots of the Guinea grass. It is very productive; cattle, although they do not prefer it at first, soon grow fond of it, and they do not seem at any time to refuse it when made into hay. Let alternate fields of oats, barley and rye, be sown in drills, and at the same time sowing broad cast over some of these fields about twenty pounds of Indian or common rye grass to the acre. Another field should be devoted to the cultivation of the common Guinea grass, which although it comes rather late in spring, is very productive, and lasts till killed by the frost of autumn. A small bed left for seed, covered during winter with straw, will produce an abundance of plants, which should be set out in rows eighteen inches apart and the plant standing eight or ten inches in the row. Another field set out in the same manner with Egyptian millet (*Pennisetum, tiphoideum*), one of the most productive grasses in the world, growing easily from the seed, and is thoroughly naturalized to our climate. Other fields I would have successively planted in vegetables not for the market but for the cows. These roots should be composed of turnips, Ruta Baga, Koh rabbi, sugar beet, carrots, &c. Thus an abundance of green food and vegetables would be successively furnished for every month in the year.

On this farm I would build extensive and airy, but not expensive stables, to secure the cattle against the cold of winter—and what is far more injurious, the heat of summer. The buildings should be so arranged that in summer the air may have a free circulation. Let forty or fifty cows among the best of the common breeds of Carolina be purchased; these may average about forty dollars per head. Keep among them a young bull of the superior English breeds. A stock may thus be provided in a few years adapted to our climate. Importations of grown cattle for our lower country are not advisable, as not one out of five survived two years, whereas those raised here do not seem to degenerate, and are as well adapted to our climate as the common variety.

Let the cows be housed all the year, and only be allowed to go out occasionally for exercise. Let their food be carried to them as in most parts of England, Belgium and Holland. They will be cooler in the stables than when exposed to the hot sun; our cows kept in confinement in Charleston thrive better than those that are turned out.

The manure and litter from the stables will after the first year go far to keep the land enriched.

Let careful attendants be provided for the cattle, and light carts used to convey the milk or fresh butter to market morning and evening. It is not my intention to estimate the profits of such an establishment, yet I cannot but think that it would be infinitely greater than that produced by any farmer in the vicinity of our city who has not invested a larger capital.

Should the above be regarded as a visionary scheme I would only ask not to be condemned before the experiment has been tried and failed.

2. *Grasses to be cultivated by the planter in the rotation of crops*.—My own experi-

ence will not allow me to pronounce positively on the best kind of grasses for hay or pasture adapted to our southern climate as renovation of the soil.

The old method of cultivating the same field with cotton for a succession of years, and another with corn, until the lands are worn out, has been long tried, and the result has been destructive to the best interests of the planter. His lands are nearly worn out, and he has the prospect of leaving to his posterity a ruinous farm house, decayed fences, meagre cattle, and a barren soil. It is a murderous system against which the earth cries aloud for forbearance, and which the voice of experience unhesitatingly condemns. Even Balam's ass stopped to remonstrate when he was overworked. It is treating our kind and teeming mother with ingratitude and cruelty—demanding, like the Egyptian task masters, bricks without straw—labour without rest. We have been experimenting on the fable of the golden egg, and are now realizing the fruit of greedy desires. Oh! for another Mantuan bard to awaken us from indolence and error—who would instruct us with that gifted father of agriculture.

"Alternis idem tonsas cessare novales,
Et segnem patiere situ durescere campum."

Whilst we are furnished with such large plantations, it seems hard that our poor cattle should be suffered to pick up a scanty subsistence and waste their manure in the woods. We have a sufficient number of productions already in cultivation to enable us to alternate our crops: cotton, corn, sweet and Irish potatoes, rye, wheat, barley, oats, groundnuts, guinea corn, &c.—I need not speak of rice—the heavens have it in charge, and a thousand rills carry it to the drainings of the richest valleys. Even in this particular a benefit has, in some instances, been found in either suffering the rice land to rest for a year, or alternating the crop. A highly intelligent and successful planter of Waccamaw informed me, that he had two years ago not planted a portion of his land in rice, but suffered the volunteer, or red rice, to spring up. It was ploughed under; a portion of the land was cultivated in oats—the remainder was kept as a pasture for cattle. In this way his land was in a measure freed from red rice—he was bountifully supplied with milk and butter, and the product of his rice-field was on the succeeding year one fourth more productive than formerly.

We have in Carolina several species of native grasses, that have already been brought into cultivation, especially the crab and crow foot. These, however, are annuals, and the ground requires to be every year cultivated and manured. The fox-tail grass, elynas or lime grass, and many species of poa, festuca, and panicum, are the native products of our fields. From some of these, and many others that I have not enumerated, a selection might be made as an experiment, which, in the end, could scarcely fail of success.

But I would prefer making use of those grasses that have been already found to be successful in agriculture. The clover and timothy I have reason to fear, are not adapted to our dry, sandy soil. On the various species of grasses cultivated in Europe, which I have already enumerated, especially those of the south of France and Austria, as well as Italy, no experiment has been made. I doubt whether the Italian rye grass has ever been seen in the southern States, and scarcely in America, although I have a faint recollection of seeing a few plants, some years ago, on the farm of Judge Buell near Albany in New-York. A crop of oats, or rye, after the corn or cotton, would afford a sufficient shade for the grasses to vegetate, and after the spring grain was removed, would not only afford hay or pasture for cattle, but renovate the soil and prepare it for the production of our staple articles. By this means our land and our stock of cattle would be improved—we would be less dependant on strangers for our hay, meats, and butter, and in the end our cotton and corn crops would be more abundant. It is but fair that we receive from our New-England brethren their cotton cloths in exchange for our raw material, and their flour for our rice, but it is rather a reflection on our industry and enterprise when we look to them also for our hay and butter.

THE EARLIEST NOTICES OF SILK CULTURE OF THIS SEASON.

It is yet too early to know much of successful operations in rearing silk worms this season, because few such are yet fully completed and the results ascertained, and none on a large scale. But it is not too soon to have heard of many disasters and losses, and even of total failures of rearings attempted with insufficient preparation and means. Scarcely one experimenter in twenty has been properly provided to guard against the usual changes of weather and usual degree of inclemency; and much less so in regard to this season, which, to this date, June 17th, has been generally very unfavorable to silk culture, owing to the predominance of either cold or rainy, or cloudy and damp weather. Indeed, the weather of the months so far have been almost reversed, or each month having the weather that properly belonged to the next preceding or succeeding. In February, the weather was warm and clear enough for the usual warm parts of March; and the young multicaulis trees generally were in leaf in the tide water region some weeks before the usual time. In March these first leaves were generally killed, and there was severe frost, and ice. In part of

April there was very warm weather, which either caused too early hatching of silk-worms' eggs, where not safely and properly retarded in ice houses, or invited new experiments to hatch out their main broods, as for settled warm weather. Again, in May more than two-thirds of all the days were either cold, cloudy, showery, or of settled rain. Even in June, so far, with some very warm days, there have been several others requiring fires for comfort.

Every person who has had the slightest experience of the rearing of silk-worms must know that it is necessary to be able to protect them from cold, and still more from dampness of the atmosphere. And even should they be able to withstand much exposure, and yet be healthy and productive in spite of all neglect and ill treatment, that it is true economy to use effectual means to shut out damp air, and, in bad weather, to dry, warm, and renew the air of the feeding apartment, by using a little fire in a fire place, or a stove. Yet almost all have neglected to observe these necessary conditions of success, and therefore it is not to be wondered at that all such feeders have met with either partial or total failure in broods hatched in April, or the first days of May. On the other hand, we have heard of no person who had a close feeding house, and yet well ventilated, and who used fire in the worst weather, who has not so far done well, excepting in some partial cases of the use of bad eggs, or some other well known and sufficient cause of failure. If every person who has attempted and failed to raise a healthy brood this season were separately examined as to the causes, there is no question that in every case there would be found to have operated one or more of the following insuperable obstacles to full success: viz., eggs from unhealthy stock—early hatching and exposure to the cold and dampness and frequent and violent changes of the weather—wet food given during wet weather and on damp litter—or too close crowding of the worms, and neglect of cleaning away their litter. Yet there will be some persons who have permitted all of these evils to operate, and who nevertheless are astonished at their failure, and totally discouraged from making new and better directed efforts.

Many experiments also who have acted more judiciously, and still more of those who have been too fearful of failure to commence any experiment, will be discouraged by the number of these losses. But there is no ground for such a conclusion. It is certain that this business is capable of being reduced to precise regulation, and conducted always in the same manner. If, then, there were a far greater proportion of failures compared to successful rearings this season, it would furnish no argument against the business as properly conducted, provided there were any well conducted and certainly successful experiments made in the same unpropitious season. If indeed but one person were to be undoubtedly successful, and 500 others were as certainly unsuccessful, it would be clear that all these might have done as well as the one, if they had but used equal care, and pursued the same method.

Having suffered in one, as well as having heard of sundry other cases of such early disasters, we were desirous of seeing the operations of some other persons who had been more discreet and therefore more successful, and accordingly we visited the coconeries of Mr. Curtis Carter of Henrico, near Richmond, and of T. S. Pleasant, at Bellona, between the 6th and 12th of June. We earnestly recommended to every one who feels interested in silk-culture, and has doubts as to its practicability, to make a similar visit to culturists who have taken some care, and exercised some judgment, to attain the end in view. No one can view the operations of an intelligent and judicious person in this business without seeing and learning something of value, even though some errors may also be equally obvious.

Mr. Curtis Carter has done more and earlier to show his confidence in the profit of silk-culture than any one in Virginia under similar circumstances. He commenced more than a year ago a cocoonery 130 feet long, 30 wide, and two stories high, which has already cost him more than \$4000, and which he does not consider finished until it shall be supplied with stoves and flues, and is lathed and plastered, to preserve the dryness and warmth of temperature thus to be obtained. Mr. Carter is not an enthusiast. He is a prudent and judicious old man, who has earned by his own early labor and economy a competent fortune, without abandoning the habits of industry and frugality, and plainness of his comfortable living, which were necessary in his early life. His prudence and caution are apparent in his present operations. For after being so well provided, and at such great expense, he has still avoided increasing his rearings otherwise than very gradually. He took care not to hatch out many eggs until recently, and the early small broods, (of which he was then reeling some of the cocoons,) were raised mostly in his close brick hatching apartment, where fire served to secure a sufficiently warm, dry, and purified atmosphere. Though 10 ounces of eggs had then been hatched, most of the worms were as yet young, and his great cocoonery seemed almost vacant.

Reeling was then going on, upon two iron Piedmontese reels. The laborers were Mr. Carter's sons and daughters, who already reel well, though having had but a few weeks' practice, and without having seen the operation before, or having instruc-

tion from any one more experienced. The principal material used had been the last year's crop, between 30 and 40 bushels of cocoons made by Mr. Carter last summer. During our visit, the reeling was of cocoons of this year's product. We are not able to judge of this operation by comparison, or by acquaintance with the article prepared; but to our scant lights on the subject, it seemed that the execution was easy and rapid, and the product excellent. Those who consider the difficulty of reeling as the great obstacle to silk-culture, will have that impression entirely removed by seeing the operation here.

It is not our purpose to describe the particulars of Mr. Carter's feeding operations, which, indeed, there was not time to observe carefully. He, as well as other persons to be mentioned, promised to furnish, for the Farmers' Register, detailed statements of results, having especial regard to the labor, the cost, and the products.

Mr. Schermerhorn's cocoonery being immediately on the route, was also visited. His building is 70 feet by 30, and of two stories. It was specially built for this purpose. The warming, in worst weather, is as yet but insufficiently and unequally effected by a small common stove. An additional building, for the hatching room proper, is now in the course of construction. Mr. S. had hatched out the worms from 30 ounces of eggs, and they so far were in good condition. But the quantity is too large for the means and degree of experience, and we greatly fear a failure on account of that error, which so many others have also committed. With one fourth of the quantity, we would be very sure of the success of Mr. Schermerhorn's arrangements and labors.

At Bellona, the principal cocoonery in the main building, which is ready for use, had not been occupied. A smaller building, because more easily warmed, had been fitted up in a rough manner for the early broods. Of these, about 70,000 worms were in their last age of feeding, and some eight or ten small separate broods had finished spinning, and the earliest of them were then laying eggs. About 200,000 more were hatched but recently. All so far had succeeded well, with the exception of two particular parcels, (out of some 15 or more of different kinds, (which had turned out badly. Altogether, the success was abundantly gratifying and encouraging. Yet great disadvantages had been, and even then were suffered, in regard to the out-door laborers, which it is expected will soon be rectified. When Mr. Pleasant's subsequent feedings begin, in his large and admirable cocoonery, there is every reason to expect success, if zeal, care, and devotion of the head of the establishment, can secure that result. So far, the superintendence and the credit for the success of these early operations, are indeed not Mr. Pleasant's but belong to his sister-in-law, Miss D. Brooke, who has given to the rearing her continued and untiring care and labor. Seeing her success with these early and various small broods, (which caused so much the more difficulty, added to the generally operating difficulties of the weather,) induced us to beg that the like assiduous attention might be bestowed on a single and larger brood, and in a later and better season. We hope to be enabled hereafter to report the result of this rearing, which will be carefully observed and all the facts noted, in accordance with our suggestion and request.

One of the objects of Mr. Pleasant's, in the early part of the season, (the best for the purpose in view,) is to provide eggs of all the best known varieties of silk worms, and of healthy stock, and likely to produce healthy progeny; and this can only be secured by breeding from a healthy stock. This was the cause of his having so many different kinds of worms, and kept in separate and distinct lots. Much has already been lost by many individuals, from their own ignorance on this subject, and much detriment caused to the progress of silk-culture. Even the best informed and most experienced persons have yet much to learn on this branch of the subject. Very few persons take the care necessary to produce perfectly good eggs, or know what means should be used to retard their hatching afterwards, without injury to the vigor of a before healthy stock. It is a remarkable fact that the constitution of a diseased or feeble brood of silk-worms will certainly be transmitted to the next generation, even though the eggs shall hatch as well as of the best. We are further induced to believe that neglected and much exposed and suffering broods of worms, though not thereby rendered unhealthy themselves, will lay eggs, which will produce only a diseased and worthless progeny. Mr. Pleasant's operations in this respect are conducted with a degree of care and of rigor, which has been rarely if ever used in this country; and not only would he reject the whole of a diseased brood, but of broods generally healthy, if every suspected worm is rejected, next every soft or otherwise inferior cocoon, and finally every feeble or inferior moth, should any such appear after the previous rigorous mode of selecting the best individuals. If such care can lead to the result, he will scarcely fail to reach the designed end of securing perfectly and pure stocks of eggs of all of his different varieties of silk-worms. He has also been conducting a course of experiments in retarding the hatching of eggs, in an ice-house, (the means which, by being improperly used, have so often produced disappointment and loss,) and from the results already obtained, he is confident of being able to secure both the desired objects,

of retarding the hatching to any time of the season, and yet preserve in perfection the vitality and the health of the stock.

The larger apartment at Bellona, already fitted up for the regular feeding, and soon now to be occupied by silk-worms, is 36 by 31 feet, and will furnish accommodations for 400,000 silk-worms at a time Mr. Pleasant designs to hatch out 100,000 every 10 days until late in September. One such supply has been already hatched, in addition to the more advanced lots above named; and the eggs for the next succeeding brood have been taken from the ice.

So far no particular facts have been stated of feeding operations except such as we saw, in some one or other stage of progress. In addition, we have been informed of several large, successful and altogether satisfactory rearings, in Brunswick, Amelia, Nottingham, Goochland, and in Norfolk county; though to the account from the last, were added statements of numerous losses having been suffered by reliance on diseased or damaged sale eggs. We had anticipated this result from having obtained and made early trial of a small supply from the same source. From those experiments who observed and noted their operations with sufficient accuracy to show the facts and their value, we hope to have reports of the results; and especially as to the amount of labor employed, and other costs, and the products actually secured. We shall not attempt to anticipate any of the reports by partial and probably inaccurate statements of what we have heard of them—or even of what we have seen. But as it may yet be in time to guard others from disaster and loss, we will merely here remark, that all the observations made concur in showing that among the things absolutely necessary for success, are plenty of fresh and renewed air, enough space for the worms, and cleaning of the shelves so often as to prevent any accumulation of damp or fermented litter at any time, and still more frequent cleanings during the last days of feeding. And, though not so fatal in effect as neglect of these essential requisites, we will add as things to be avoided, the almost universal errors of feeding too heavily, and the use of very young, very luxuriant and succulent leaves, forming a very watery and therefore weak food, and serving to produce or increase dampness, which is the greatest of all causes of injury to silk-worms.

Since the above was written, the later and more full information received (to June 25th) has been still more encouraging and the cases of success in greater proportion to the contrary. Some persons also who effect of bad management which might have been avoided, and there was discouragement, or change of opinion produced, as to the ultimate and general results of the business.—Farmers' Register.

MR. INGLIS'S ORATION.

Cheraw July 6, 1840.

DEAR SIR:

In behalf of the Committee of arrangements for the fourth of July last, and, I may add their organ, of the citizens generally, permit me to return you their thanks for your excellent and patriotic Oration delivered on the fourth instant, and to ask respectfully for a copy for publication.

I am Dear Sir, your obedient servant.

BROWN BRYAN.

JOHN A. INGLIS Esq.

Cheraw, July 7, 1840.

Dear Sir,—I have received your polite favor of the 6th instant, requesting in the name of the Committee of arrangements, a copy of the "Oration," delivered on Saturday last, for publication. Be assured that I am not insensible to the too partial kindness which prompted the compliment. As I am unable to discover any worthy reason for declining a compliance, I send you herewith a copy, in the hope that such as may think it deserving of perusal will "be to its faults a little blind."

With great respect yours,

JOHN A. INGLIS.

BROWN BRYAN, Esq.

ORATION.

FELLOW CITIZENS:

The assertion, of the independence of the American Colonies by their Representatives in Congress on the Fourth of July 1776, so ably vindicated in the eloquent document to which we have been listening, is the event in memory of which this day is observed. With its return is exhibited the sublime spectacle of a Nation communing in the emotions which its affecting and glorious associations excite. To such an occasion, thus devoted to "Our Country," a consideration of "Our Country's Prospects," cannot be inappropriate. Whether the American Republic shall advance in the path of glory she has hitherto pursued, and if so, to what degree of power and influence she shall yet attain, is an inquiry, not only of profound concern to all her citizens, but of painful interest also to the advocates of rational freedom every where. With the genius of Liberty, designing the political regeneration of the world, has established her model of free government; and hither for encouragement her worshippers from all lands direct their failing eyes. Should the fabric she has here created of such fair and beautiful proportions, crumble, the light of promise which now streams on the pathway of man will be quenched, and the question "whether human nature is fitted for a

popular form of Government" will apparently be forever solved. Such a consummation, the foes of political liberty and equality, have from the beginning anticipated with feelings of unholy triumph, while their friends have in too many instances yielded to unreasonable apprehensions.

It is not unusual for each to derive arguments from the fate of other Republics whose scattered wrecks have heretofore derided the hopes of humanity. Impartial history too plainly testifies that where the Roman people once walked in the pride of conscious freedom, the "half clad lazaroni" now crouches at his prince's palace and begs the offal of his kitchen, "that the far less eloquence of the forum and the capital have, been long since hushed in the silence of despotism, and the behests of one man have usurped the authority which once belonged only to the orders of the Comitia. It is true that Greece, "the first garden of Liberty's tree" yielded her independence successively to Macedonia and Rome, and the ashes of her patriots lay trampled for centuries by the "servile, mindless and enervate Ottoman." True that the free governments which once flourished in the states of Holland and the Republics of Modern Italy, have all been subverted. Yet Rome and Greece, Holland and Venice, Florence and Genoa, retained their liberties and with them their prosperity and glory for a long succession of years. If it be nevertheless urged that "the head of this young Republic is already whitened with premature age," that the signs of decrepitude appear and the causes which have wrought the downfall, of free government elsewhere already begin to operate, let it be replied that powerful counteracting causes here destroy the analogy, the evidence of which is reserved for a few moments.

The past progress of our country in all that constitutes the true power and greatness of a nation, furnishes other support upon which, the spirit of patriotism may stay itself against the influence of such apprehensions. A rapid glance at our condition sixty four years since, if it awakens admiration of the unequalled courage which, under such circumstances defied and triumphantly encountered the wrath of the mightiest nation in the world, will not less excite astonishment at the change which so brief an interval has wrought. At that time, thirteen feeble colonies, containing a population of scarce three millions, occupied, in a very scattered manner, the narrow belt of territory that lies between the Atlantic coast, and the range of the Alleghanies, while all beyond that limit lay a boundless continuity of shade" whose still solitudes were yet unbroken by the axe of the white settler, or had been penetrated only by the hardy adventure of a Boon or Kenton. The tide of being now swollen to five fold its original volume, has risen above the barrier which then confined it, and poured itself down over the mighty basin of the Mississippi. Before it, it has prostrated the pride of the forest, and left in its rear twenty six free and powerful States dotted all over with splendid cities and thriving villages cultivated farms and elegant mansions.—During the revolutionary struggle, the limited and restricted commerce the Colonies had possessed "was annihilated, their shipping nearly destroyed and a vast public debt was incurred." Now some hundred thousand of industrious citizens earn their livelihood by distributing the products, of our own territories, in eight thousand American vessels to every accessible country on the globe. Follow citizens, to what quarter of the world, into what sea does not the enterprising spirit of our people push our navigation?—What is that direction which our Commerce takes not? The consuming fervors of an equatorial sun, the tumbling icebergs of the North or the frozen desolation of the South Pole raise no barriers which they do not surmount.

Nor has the increase of our revenues been less remarkable. A debt of one hundred and twenty millions of dollars has been entirely extinguished, and but recently our coffers groined under the weight of superfluous treasure.

When the resistance to the exercise of unconstitutional powers by the British Parliament, first manifested itself in the refusal of the Colonists to consume British manufactures, they were obliged to spin and weave for themselves, in their several homes. It was not until twenty years afterwards, that the first Cotton Factory was established in the United States. Now in that branch of industry alone, more than two hundred thousand persons are employed, a capital of eight million of dollars is invested with an annual return in fabrics of Fifty Millions. In other branches of Manufactures, the progress has not been less astonishing—until at this time, the varied products of American ingenuity and enterprise, that find their way into foreign countries, bring a return of eight millions of dollars.

Our vast improvements in agriculture, as well with respect to the implements and mode of cultivation, as the quantity and variety of production; our abundant internal resources both for peace and for war; our gallant and powerful Navy; the extent and quality of our Literature, the progress we have made in art and science; and the splendid system of Internal Improvements which is rapidly drawing the various sections of our Country together in indivisible Union, furnish other points of contrast not less striking. But statistics are by no means an ornament of style and minuteness of detail is tedious.

The comparison has been sufficiently ex-