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THE AGRICULTURAL ★ PAPERS OF ★ GEORGE WASHINGTON

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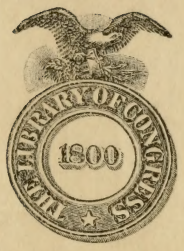
WALTER EDWIN BROOKE



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THE AGRICULTURAL PAPERS OF GEORGE WASHINGTON. *Edited by Walter Edwin Brooke.*

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RICHARD G. BADGER, PUBLISHER, BOSTON

THE AGRICULTURAL PAPERS OF GEORGE WASHINGTON

EDITED BY

WALTER EDWIN BROOKE, Ph.B.

Late Assistant Professor of Economics and Sociology, Agricultural College of Utah, Logan, Utah

BOSTON

RICHARD G. BADGER

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This little collection of agricultural letters is dedicated to all those Farmers who admire the great industry, the unfailing modesty, and the sincerity of purpose that characterized every word and action of our national hero,

GEORGE WASHINGTON.

FOREWORD BY THE PUBLISHER

We regret exceedingly to be obliged to announce the death of Professor Walter Edmund Brooke which took place on October 2, 1918, while his book was in the process of publication. The compilation of this volume, however, was entirely his own work and was, in fact, the last thing he did, for the sole purpose of elevating and dignifying agriculture by showing the intelligent interest and application of what were in George Washington's time only the crude principles of what is now modern and scientific agriculture.

We feel sure that the readers of this volume will be interested in the following brief biography. Any one who had the pleasure of knowing Professor Brooke will need no eulogy of his splendid achievements.

Walter Edwin Brooke was born April 16, 1885, at Plymouth, Indiana, where he spent his boyhood days. Coming to Salt Lake with his parents, he entered upon his educational career in the Salt Lake public schools and graduated from the high school in 1904.

After two years spent at Armour Institute of Technology at Chicago, he entered Yale. It was here that his widely known interest in young men and their problems was cultivated. During his five years at Yale he became very deeply interested in the welfare of his companions. Realizing that there lacked much to interest and hold young men when not at study or recitation, he made bold to approach certain of the faculty on the subject and asked to be permitted to try out a scheme to hold them under the influence of good teachers and companions.

He spent much of his time and energy collecting money with which to make the fine Y. M. C. A. building known as Byers Hall, a homelike place for the students to gather. The furnishings, lights and pictures were details which did not escape his careful planning. But the main attraction was the wonderful fireplaces with their bright and cheerful log fires. Here he gathered around him his first group of staunch student friends, many of whom remained his regular correspondents to the day of his death. So engrossing was this work for young men that he remained to complete two years of post-graduate study, during which time he specialized in sociology and economics.

In 1913 he returned to Salt Lake and the following year entered upon his life work of teaching, as an instructor at the Agricultural College at Logan. In this he was eminently successful and his promotion in the faculty of economics was rapid. His loss to that department will be a severe one.

But the great contribution which Walter Brooke made to the life of the institution was in his personal relations with the students, especially the boys at the Agricultural College. As chairman of the committee on student affairs, he early assumed a prominent place in promoting the student activities, helping to plan and carry through the numerous entertainments and social affairs which have so large a place in the college life. He represented the faculty's interest in the life of the student body in a most substantial manner. In the development of the athletic activity of the A. C. he also took an enthusiastic part. No one, not even excepting the coaches, contributed more to the recent splendid advance in athletics in Logan. He gave freely of his time to encourage the members of the teams, and by his personal touch with them one by one helped to put a fine new spirit into them, which the records of the past three years plainly attest.

He was also secretary of the committee on attendance and scholarship and had much to do with the order and discipline of the students; but what he might have managed by the authority of his position, he preferred to do and do more tellingly by the influence of his personal friendship for the men. It was his friendly talks and his sympathetic understanding of them that helped the students realize and keep their responsibility toward the college and its rules.

Most of all will Walter Brooke be remembered by the scores and hundreds whom he has helped in many ways. Many a boy could not have finished his course had Prof. Brooke not interceded at home; many a boy would have given up his college life in discouragement, if Prof. Brooke had not encouraged him to continue and showed him the way to succeed; many of the young men had no one to whom they could take their problems and difficulties for advice except Walter E. Brooke. It called for long and tiring days and evenings, but to him the work was well worth while. And he made a unique place for himself in the life of the Agricultural College as the students' unfailing friend — a place which will be difficult to refill. His aim in life was not to make dollars but to make friends.

PREFACE

In the preparation of this collection of Washington's letters, the editor wishes to acknowledge his indebtedness to Miss Johanna Sprague, Librarian of the Salt Lake Public Library, for valuable assistance in making much important material easier of access than is common with public libraries. To Mrs. Gail North Parks, the editor is indebted for the very thorough and careful work in copying the text of these letters, and for several suggestions as to their arrangement.

Mr. Walter Cook has placed the editor under obligation for his painstaking work in copying the map of the Mount Vernon Estate from a very faded and discolored print. The editor is also grateful to Mr. Lowry Nelson for much valuable criticism of the editorial work; and to Mr. Allen Martineau and Mr. Sidney Spencer for careful assistance in rereading the manuscripts and proofs.

W. E. B.

CONTENTS

		PAGE
1	Extract from Washington's Agricultural Diary	17
2	To Arthur Young (of England)	21
3	To Arthur Young (of England)	26
4	To Thomas Peters	29
5	To Clement Biddle	31
6	To Theodoric Bland	34
7	To Arthur Young (of England)	37
8	To Richard Peters	42
9	To John Fairfax	44
10	To George A. Washington	47
11	Specimen Statements of Crops	62
	Specimen Reports of the Manager	68
12	To Anthony Whiting	73
13	To Arthur Young (of England)	81
14	To Thomas Jefferson	92
15	To James McHenry	96
16	To William Strickland, in England	98
17	To James Anderson, Manager of the Farms	106
18	Four Tables of Crop Rotation	128
19	Extract from Washington's Diary	141

INTRODUCTION

During the past four years, the pursuits of peace are made to stand out in sharp contrast with the Great War that is now being waged in Europe. The fields, that until four years ago produced crops of waving grain, and served to support the great population of men in industry, are now furrowed with trenches. These furrows are not plowed for planting, but dug by men so that they might the more efficiently massacre each other. Nor are these furrows filled by the decayed vegetable matter with which the thrifty European farmer was in the habit of enriching his fields. They are now fertilized by rows and rows of the nameless who have fallen where they fought, to die unrecognized, fit only to replenish the soil that their sons may reap greater crops of grain.

Standing in sharp contrast to this gruesome picture are those peaceful pursuits of the countries not yet devastated by this terrible conflict. The agricultural activities of the American Farmer seem just now to attract with twice the force the interest of the peace-loving citizen. Especially has this been true since we are realizing how important a factor food is in winning a war. Today every sinew of this nation is being tightened up to the successful accomplishment of our part in the great world drama being staged upon the battlefields of Europe, in order that we may safeguard the principle of democracy so dear to the American people. And we know that to produce food enough for our-

selves and our suffering friends overseas is now as vital an undertaking as the manufacture of munitions, or the training of men.

Then, too, a greater interest in farming had already begun to manifest itself among the American people before this war. It, no doubt, came as a reaction to the excessive devotion of the people to the industrial life of the city. This fact, together with the responsibilities which the war has placed upon the farmer, led the present editor of these papers to think it especially timely and fitting to present to the public this selection from the choicest collection of letters on agriculture that the literature of this nation possesses.

Our school histories have told us that George Washington was "first in war, first in peace, and first in the hearts of his countrymen." However we may try to vary the expression of this thought, the idea still remains fixed in our minds. It has been generally accepted as a statement of fact. Now, it seems perfectly clear that George Washington was "first in war"; that, though he did not rush his countrymen into conflict, he was nevertheless ready to lead them in their fight against oppression. It is also quite evident that he is "first in the hearts of his countrymen."

But is it entirely clear just how Washington was "first in peace"? True, he set to work willingly and at great sacrifice to help frame the constitution, and later, to construct a government upon it that should stand as a new nation, capable of self-government, and capable of defending its integrity against stronger and older nations. But besides the absorbing interest which he seems to have had in the civil affairs of the country, is it generally known that he possessed an interest in agriculture, which easily rivalled his great devotion to military and governmental affairs?

Is it just as evident that he was one of the first scientific farmers of the country?

I confess that until I began the simple research that this volume represents, I did not know that Washington took more than a passing interest in agricultural activities, and I submit that I am an average reader. Moreover, I have frequently inquired of others who are far more widely read, and have found that they, too, knew little of the keen and intelligent interest which George Washington had in agriculture itself. They do not know that he was one of the half dozen best informed men in England and America on crop-rotation, and soil fertilizers. He, with Thomas Jefferson, and Arthur Young of England stood foremost in writing and experimentation in agriculture. These three men were in correspondence with each other for a long time; they took pains to try out new ideas, and to exchange their experiences.

Besides being the careful observer, that he was, of men and their ways, he also watched very closely the weather and crop conditions. Every day, he carefully recorded in his diary the temperature, the state of the weather, and the forecast of the barometer.

He also kept accounts and knew very accurately, for those days, whether or not a certain field or farm was paying, or losing. It will surprise the average reader to see with what care he managed his business of farming.

So it is with the intention of presenting this new aspect of George Washington's life to a nation, whose fundamental interests are agricultural and industrial, that I have selected the following letters. They take us back a century and a quarter. We are immediately impressed with the great similarity between many of the problems encountered then and those being met today. And, at the same time, we are

struck by the contrasts in methods adopted to solve those problems, then, and now.

In this collection of Washington's letters, an effort has been made to include only those that exhibit some interesting phase of his farming activities. Viewing them from a biographical standpoint, it may be well to point out that the only accurate way to study the personality of any historical character is to read his letters. They do not suffer from the varnish of biographical treatment. They stand at their face value, and reveal more intimately than any other writings can, the real man, as he lived and thought.

It is the editor's hope that the reader will lose himself in the fascinating letters of our first true American, and forget that they have been edited. The comments are intended to be mere guide-posts to a few of the interesting features of the letters that may appeal to the American reader.

It may be fitting to suggest further that Woodrow Wilson's "Life of George Washington" [1] will give an excellent biographical background for these letters, standing out from the large number of such biographies because of President Wilson's very human, and almost intimate portrayal of Washington's life.

WALTER EDWIN BROOKE.

Logan, Utah, June 23rd, 1918.

[1] Harpers, New York.

THE AGRICULTURAL PAPERS OF GEORGE WASHINGTON

THE AGRICULTURAL PAPERS OF GEORGE WASHINGTON

1

EXTRACT FROM WASHINGTON'S DIARY APRIL, 7TH–15TH, 1785

This extract from Washington's diary gives us an excellent example of the care he took to record his agricultural activities, and of the thoughtful attitude he seems to have had toward his occupation as a farmer.

It may be interesting to note here, too, that these entries were made in his diary about two years after the close of the Revolutionary War.

EXTRACT FROM WASHINGTON'S AGRICULTURAL DIARY

April 7th, 1785.— Cut two or three rows of the wheat (Cape wheat) within six inches of the ground, it being near eighteen inches high, that which was first sown, and the blades of the whole singed with the frost.

8th.— Sowed oats today in drills at Muddy Hole with my barrel plough.[1] Ground much too wet; some of it had been manured, but had been twice ploughed, then listed, then twice harrowed before sowing; which, had it not been for the frequent rains, would have put the ground in fine tilth. Ploughed up the turnip patch at home for orchard grass.

[1] See page 1, Selection No. 34 for a more complete account of this implement.

10th.— Began bricklaying today. Completed sowing, with twenty-four quarts of oats, thirty-eight rows at Muddy Hole ten feet apart, in the ground intended for corn.

11th.— Sowed twenty-six rows of barley in the same field at Muddy Hole in the same manner, with the drill plough, and with precisely the same workings the oats had adjoining thereto. This was done with twelve quarts of seed. After three ploughings and three harrowings, sowed millet in eleven rows three feet apart, opposite to the overseer's house in the Neck. Perceived the last sowed oats at Dogue Run, and those sown in the Neck, were coming up.

12th.— Sowed sixteen acres of Siberian wheat, with eighteen quarts, in rows between corn, eight feet apart. This ground had been prepared in the following manner. 1. A single furrow; 2. another in the same to deepen it; 3. four furrows to throw the earth back into the two first, which made ridges of five furrows. These, being done some time ago, and the sowing retarded by frequent rains, had got hard; therefore, 4. before the seed was sown, these ridges were split again by running twice in the middle of them, both times in the same furrow; 5. after which the ridges were harrowed; and, 6. where the ground was lumpy, run a spiked roller with a harrow at the tail of it, which was found very efficacious in breaking the clods and pulverizing the earth, and would have done it perfectly, if there had not been too much moisture remaining from the late rains. After this, harrowing and rolling where necessary, the wheat was sown with the drill plough on the reduced ridges eight feet apart, as above mentioned, and harrowed in with the small harrow belonging to the plough. But it should have been observed, that, after the ridges were split by the middle double furrows, and before they were closed again by the harrow, a little manure was sprinkled in them.

At Dogue Run, listing the ground intended for Siberian wheat, barley, &c., a second time.

At Muddy Hole sowed with the drill plough two rows of the Albany pease between the corn rows, to see whether they would come to any thing for want of the support which they give one another when sown broad-cast. The same management given the ground as for oats and barley at this place.

13th.— Sowed oats in drills ten feet apart, between corn rows in the Neck, twenty-four rows, in the following manner. 1. A single furrow; 2. another and deep furrow in this; 3. four bouts to these; 4. ploughed again in the same manner; 5. a single furrow in the middle of these; 6. manure sprinkled in this furrow; 7. the great harrow over all these; and, 8. the seed sowed after the harrow with the drill or barrel plough, and harrowed in with the harrow at the tail of it. *Note.*— It should have been observed, that the field intended for experiments at this plantation is divided into three parts, by bouting rows running crosswise; and that manure, and the *last* single furrow, are (at least for the present) bestowed on the most westerly of those nearest the Barn.

14th.— Harrowed the ground at Muddy Hole, which had been twice ploughed, for Albany pease in broad-cast. At Dogue Run began to sow the remainder of the Siberian wheat, about fourteen quarts, which had been left at the Ferry; run deep furrows in the middle, and made five-feet ridges. Did the same for carrots in the same field on the west side next the meadow. Ordered a piece of ground, two acres, to be ploughed at the Ferry around the old corn-house, to be drilled with corn and potatoes between, each ten feet apart, row from row of the same kind. Sowed in the Neck, or rather planted, next to the eleven rows of millet, thirty-five rows of rib-grass seeds, three feet apart,

and one foot asunder in the rows.

15th.— Sowed six bushels of the Albany pease broad-cast at Muddy Hole, on about an acre and a half of ground, which was harrowed yesterday as mentioned above.

Sowed in the Neck along side of the rib-grass fifty rows of burnet seed, exactly as the last was put in; that is, in three feet rows, and one foot in the row.

2

ARTHUR YOUNG [1] (of England) August 6, 1786.

This is an excellent letter to show Washington's great interest and enthusiasm in agriculture. In the third paragraph, he makes some rather pointed criticisms of the attitude then commonly held toward anything new in agriculture, and the reasons which may account for it.

The twentieth century farmer will be interested in the list of seeds which Washington orders from England to try out on his land.

TO ARTHUR YOUNG (OF ENGLAND)

Mount Vernon, 6 August, 1786.

Sir,

I have had the honor to receive your letter of the 7th of January from Bradfield Hall in Suffolk, and thank you for opening a correspondence, the advantages of which will be so much in my favor.

Agriculture has ever been among the most favored of my amusements, though I never have possessed much skill in the art, and nine years' total inattention to it has added nothing to a knowledge, which is best understood from practice; but, with the means you have been so obliging as to

[1] Arthur Young was the first Secretary of the National Board of Agriculture, established in England, 1793. He was one of the greatest English writers on agriculture, and carried into that field the spirit which we generally associate with the great revolution of manufacture. He was indefatigable in observation, inquiries, researches, and experiments. His works on agriculture have been translated into French, German, and Russian.

furnish me, I shall return to it, though rather late in the day, with more alacrity than ever.

The system of agriculture, if it deserves the epithet of *system*, which is in use in this part of the United States, is as unproductive to the practitioners, as it is ruinous to the landholders. Yet it is pertinaciously adhered to. To forsake it; to pursue a course of husbandry, which is altogether different, and new to the gazing multitude, ever averse to novelty in matters of this sort, and much attached to the customs of their forefathers, requires resolution, and, without a good practical guide, may be dangerous; because, of the many volumes which have been written on this subject, few have been founded on experimental knowledge; are verbose, contradictory, and bewildering. Your "Annals," therefore, shall be this guide. The plan on which they are published gives them a reputation, which inspires confidence; and for the favor of sending them to me, I pray you to accept my very best acknowledgments. To continue them will add much to the obligation.

To evince with what avidity and with how little reserve I embrace the polite and friendly offer you have made, of supplying me with "men, cattle, tools, seeds, or any thing else that may add to my rural amusements," I will give you the trouble, Sir, of providing, and sending to the care of Wakelin Welch, of London, merchant, the following articles.

Two of the simplest and best constructed ploughs for land, which is neither very heavy nor sandy; to be drawn by two horses; to have spare shares and coulters; and a mould, on which to form new irons, when the old ones are worn out, or will require repairing. I will take the liberty to observe, that some years ago, from a description or recommendation thereof, which I had somewhere met with, I sent to England for what was then called the Rotherham or patent

plough; and, till it began to wear and was ruined by a bungling country smith, that no plough could have done better work, or appeared to have gone easier with two horses; but for want of a mould, which I neglected to order with the plough, it became useless, after the irons, which came with it, were much worn.

A little of the best kind of cabbage seed for field culture.

Twenty pounds of the best turnip seed.

Ten bushels of sainfoin seed.[1]

Eight bushels of the winter vetches.

Two bushels of rye-grass seed.

Fifty pounds of hop-clover seed.

And if it is decided (for much has been said for and against it), that burnet, as an early food, is valuable, I should be glad of one bushel of this seed also. Red clover seed is to be had on easy terms in this country; but if there are any other kinds of grass seeds, not included in the above, that you may think valuable, especially for early seeding or cutting, you would oblige me by adding a small quantity of the seeds, to put me in stock. Early grasses, unless a species can be found that will stand a hot sun, and oftentimes severe droughts in the summer months, without much expense of cultivation, would suit our climate best.

You see, Sir, that, with very little ceremony, I avail my-

[1] Sainfoin or Asperset. "A leguminous plant (Onobrychis Sativa) originating in the Mediterranean Countries, but which has been cultivated for centuries. The stem is about two feet high, with pinnate leaves, composed of small leaflets; the pea-like flowers are rather large and of a showy pink color, and are disposed in short spikes, on long axillary peduncles. It is a nutritious fodder, well-liked by livestock, especially sheep, makes good hay, and will grow on light, warm, chalky soils where other pasturage does not thrive. The roots are long-lived and are useful for binding light soils, while the foliage not only shades the pastures, but makes a good crop for plowing under. It is also recommended as a honey-producing plant for bee pastures."

—"The American Encyclopedia," Last Ed., 1904–1906.

self of your kind offer; but, should you find, in the course of our correspondence, that I am likely to become troublesome, you can easily check me. Enclosed I give you an order upon Wakelin Welch for the cost of such things as you may have the goodness to send me. I do not, at this time, ask for any other implements of husbandry than the plough; but when I have read your "Annals" (for they are but just come to hand), I may request more. In the meantime, permit me to ask what a good ploughman may be had for at annual wages; to be found (being a single man) in board, lodging, and washing? The writers upon husbandry estimate the hire of laborers so differently in England, that it is not easy to discover from them, whether one of the class I am speaking of would cost eight or eighteen pounds a year. A good ploughman at low wages would come very opportunely with the plough I have requested.

By means of the application to my friend, Mr. Fairfax of Bath, and through the medium of Mr. Rack, a bailiff is sent to me, who, if he is acquainted with the best courses of cropping, will answer my purposes as a director or superintendent of my farms. He has the appearance of a plain honest farmer; is industrious, and from the character given him by a Mr. Peacy, with whom he has lived many years, is understanding in the management of stock, and of most matters for which he is employed. How far his abilities may be equal to a pretty extensive concern, is questionable. And, what is still worse, he has come over with improper ideas; for, instead of preparing his mind for a ruinous course of cropping, exhausted lands, and numberless inconveniences into which we had been thrown by an eight years' war, he seems to have expected, that he was coming to well-organized farms, and that he was to meet ploughs, harrows, and all the different implements of husbandry, in as high a state as

the best farming counties in England could have exhibited them. How far his fortitude will enable him to encounter these disappointments, or his patience and perseverance will carry him towards effecting a reform, remains to be decided. With great esteem, I have the honor to be, Sir, &c.

3

ARTHUR YOUNG (of England) November 15, 1786.

This letter stands as an appendix to the previous one. It possesses particular interest to us because of the description it contains of the soil about Mount Vernon.

Washington also makes a request for a "plan of the most complete and useful farm-yard, for farms of about five hundred acres."

TO ARTHUR YOUNG (OF ENGLAND)

Mount Vernon, 15 November, 1786.

Sir,

The enclosed is a duplicate of the letter I had the honor of writing to you the 6th of August. The evil genius of the vessel by which it was sent, which had detained her many weeks in this country after the letters intended to go by her were ready agreeably to the owner's appointment, pursued her to sea, and obliged the captain, when many days out, by the leaky condition in which she appeared, to return to an American port. The uncertainty of his conduct, with respect to the letters, is the apology I offer for giving you the trouble of the enclosed.

Since the date of it, I have had much satisfaction in perusing the "Annals of Agriculture," which you did me the honor to send me. If the testimony of my approbation, Sir, of your disinterested conduct and perseverance in publishing so useful and beneficial a work (than which nothing

in my opinion can be more conducive to the welfare of your country) will add aught to the satisfaction you must feel from the conscious discharge of this interesting duty to it, I give it with equal willingness and sincerity.

In addition to the articles, which my last requested the favor of you to procure me, I pray you to have the goodness of forwarding what follows;

Eight bushels of what you call velvet wheat, of which I perceive you are an admirer.

Four bushels of beans, of the kind you most approve for the purposes of a farm.

Eight bushels of the best kind of spring barley.

Eight bushels of the best kind of oats.

And eight bushels of sainfoin seed. All to be in good sacks.

My soil will come under the description of loam; with a hard clay, or (if it had as much of the properties as the appearance, it might be denominated) marl, from eighteen inches to three feet below the surface. The heaviest soil I have, would hardly be called a stiff or binding clay in England; and none of it is a blowing sand. The sort, which approaches nearest the former, is a light grey; and that to the latter, of a yellow red. In a word, the staple has been good, but, by use and abuse, it is brought into bad condition.

I have added this information, Sir, that you may be better able to decide on the kind of seed most proper for my farm.

Permit me to ask one thing more. It is to favor me with your opinion, and a plan, of the most complete and useful farm-yard, for farms of about five hundred acres. In this I mean to comprehend the barn, and every appurtenance which ought to be annexed to the yard. The sim-

plest and most economical plan would be preferred, provided the requisites are all included. Mr. Welch will answer your draft for the cost of these articles, as before. He is advised of it. I have the honor to be, Sir, &c.

4

THOMAS PETERS (of Baltimore) December 4, 1786.

In this letter, Washington makes urgent request of a merchant in Baltimore for some good spring barley seed. He tells of its scarcity around Mount Vernon, and of his anxiety to get some. He also makes some inquiries regarding clover seed, objecting to the imported kind.

TO THOMAS PETERS (OF BALTIMORE)

Mount Vernon, 4 December, 1786.

Sir,

Your letter of the 18th ultimo came duly to hand. From the number of fruitless inquiries I had made after spring barley before I applied to you, and the intervention, between the date of my letter and your answer, being considerable, I despaired of obtaining any of this grain; and therefore seeded the ground, which was at first designated for this crop, with wheat and rye.

I have also since heard, that many gentlemen, who have tried it (especially some on West River, where I know the lands are very fine, and such as I thought well adapted to this grain), do not find it answerable to their expectation. Nevertheless, as I wish to divide my seed-time, and am desirous of sowing clover and other grasses with barley, in preference to other grain, I would gladly take fifty bushels of it, and will depend absolutely upon you for this quantity, which I pray may be sent to me, as soon as it can be obtained, by the packet. With respect to the latter I am

anxious, because, having the seed in my possession, I can prepare accordingly, and not postpone my oat season in expectation of a barley one, and be disappointed at last, as was the case last year.

If I find this essay likely to answer my expectation, I shall be better able to talk with you on a contract. The barley may be accompanied by the machine you speak of, as eligible for cleaning it, and I shall thank you for sending one. Let me know decidedly, if you please, whether I may depend upon the above quantity, in the manner mentioned. I have it now in my power (for it is offered to me) to get what I want from a brewer in Philadelphia, but I may even fail there, if your answer is delayed.

Can good clover seed (not imported seed, for that rarely is so), be bought at Baltimore? In what quantity, and at what price? There is not, I believe, a bushel of barley, of any kind, in this neighbourhood for sale. A Mr. Wales, who brews in Alexandria, gets all of this he can. I am, Sir, &c.

5

CLEMENT BIDDLE (of Philadelphia) December 5, 1786

The day after his letter to Peters, this was written to a merchant of Philadelphia. These two letters were included principally to show two traits of Washington's character which must account in great measure for his success in life; namely, his *persistence* and his great *fore-sight*. He is still in search of spring barley and clover seed. It is very evident that he was not the man to "put all of his eggs into one basket." He was going to take no chances by depending on one man. Therefore, in order to be on the safe side, he makes another order for seed from Biddle.

TO CLEMENT BIDDLE (OF PHILADELPHIA)

Mount Vernon, 5 December, 1786.

Dear Sir,

For your trouble in negotiating my certificate I thank you. If it is necessary, in order that you may receive the half-yearly interest thereon, I would wish you to keep it; if you can draw this without, it may be returned to me. In the mean time, inform me, if you please, if this certificate can be converted into cash, and upon what terms; that, if I should have occasion to make any purchases in Philadelphia, I may know the amount of this fund. The indents, to the amount of eighty-four dollars, I have received, and note the credit given me for the year and half interest.

The curtain stuff and nails are at hand safe, and will answer very well. The uncertainty of getting good spring

barley (for I had made many fruitless inquiries in this State, and the parts of Maryland bordering on it, before I wrote to you), induced me to put the ground, which I had first allotted for this grain, into wheat and rye; but, if you could secure and send to me, by one of the first vessels bound from your port to Alexandria, fifty bushels, I will yet find as much ground as will receive this quantity of seed; or, if you have engaged one hundred bushels of this grain from Reuben Haines, as the expression of your letter seems to import, I will readily take it, but would not choose to be under any promise of supplying him with the produce of it; first, because being uncertain of the yield, and inclining to go pretty largely upon it if I find it likely to answer my purpose, I shall want a good deal for seed; and, secondly, because the freight around, it is to be feared, would sink too deep in the scales to render me any profit upon a small quantity.

The clover seed, as I conceived this had been a productive year of it, is high; yet I would beg you to send me three hundred weight. As soon as I know the precise cost of this, and the barley, the money shall be remitted; or, if you have any dealings in Alexandria, and an order on me will answer your purposes equally as well, it shall be immediately paid.

If it is the same thing to Mr. Haines, whether I take fifty or a hundred bushels, I shall, under the circumstances already mentioned, prefer the former quantity. It is so essential to every farmer to have his seeds by him in time, that I would urge in strong terms, that these now acquired be sent to me by the first good water conveyance. The uncertainties and disappointments of last spring will always make me anxious to obtain all my seeds long before the season for sowing them shall have arrived. At any rate, let

me know by post what it is I have to expect. Best wishes attend Mrs. Biddle. I am, dear Sir, &c.

P. S. Is the Jerusalem artichoke to be had in the neighborhood of Philadelphia? Could as much of the root, or the seed, be got as would stock an acre? I want to bring it in with my other experiments for the benefit of stock.

6

THEODORIC BLAND December 28, 1786.

We have here an interesting account of a "drill-plow" over which Washington was very enthusiastic. Apparently it was a very early form of our modern drill for planting grains.

In his Agricultural Diary for April 8th, 1785, he refers to this same implement as a "barrel-plough." (See p. 17.)

TO THEODORIC BLAND

Mount Vernon, 28 December, 1786.

Dear Sir,

I am now about to fulfil my promise with respect to the drill plough and timothy seed. Both accompany this letter to Norfolk, to the care of Mr. Newton. The latter I presume is good, as I had it from a gentleman on whom I can depend. The former, it is scarcely necessary to inform you, will not work to good effect in land that is very full either of stumps, stones, or large clods; but, where the ground is tolerably free from these and in good tilth, and particularly in light land, I am certain you will find it equal to your most sanguine expectation, for Indian corn, wheat, barley, pease, or any other tolerably round grain, that you may wish to sow, or plant in this manner. I have sown oats very well with it, which is among the most inconvenient and unfit grains for this machine.

To give you a just idea of the use and management of it, I must observe, that the barrel at present has only one set

of holes, and those adapted for the planting of Indian corn, only eight inches apart in the row; but, by corking these, the same barrel may receive others, of a size fitted for any other grain. To make the holes, observe this rule; begin small and increase the size, till they admit the number of grains, or thereabouts, you would choose to deposit in a place. They should be burnt, and done by a gauge, that all may be of a size, and made widest on the outside, to prevent the seeds choking them. You may, in a degree, emit more or less through the same holes, by increasing or lessening the quantity of seed in the barrel. The less there is in it, the faster it issues. The compressure is increased by the quantity, and the discharge is retarded thereby. The use of the band is to prevent the seeds issuing out of more holes than one at a time. It may be slackened or braced according to the influence the atmosphere has on the leather. The tighter it is, provided the wheel revolves easily, the better. By decreasing or multiplying the holes in the barrel, you may plant at any distance you please. The circumference of the wheels being six feet, or seventy-two inches, divide the latter by the number of inches you intend your plants shall be asunder, and it gives the number of holes required in the barrel.

By the sparse situation of the teeth in the harrow, it is designed that the ground may be raked without the harrow being clogged, if the ground should be cloddy or grassy. The string, when this happens to be the case, will raise and clear it with great ease, and is of service in turning at the ends of rows; at which time the wheels, by means of handles, are raised off the ground, as well as the harrow, to prevent the waste of seed. A small bag, containing about a peck of the seed you are sowing, is hung to the nails on the right handle, and with a small tin cup the barrel is replenished with convenience, whenever it is necessary, without loss of time, or

waiting to come up with the seed-bag at the end of the row. I had almost forgot to tell you, that, if the hole in the leather band, through which the seed is to pass, when it comes in contact with the hole in the barrel, should incline to gape, or the lips of it turn out, so as to admit the seed between the band and barrel, it must be remedied by riveting a piece of sheet tin, copper, or brass, the width of the band, and about four inches long, with a hole through it, the size of the one in the leather. I found this effectual. I am, dear Sir, &c.

7

ARTHUR YOUNG November 1, 1787.

Another trait of Washington's character,— one which endeared him to many of his countrymen at that time, is illustrated in the following letter. He had been away from home for four months presiding over the famous Constitutional Convention of 1787, which had been in session from May 14th, until September 17th. To have presided over the famous Convention which was to give our country a fresh start upon a firmer footing was one of the greatest honors that could have come to an American citizen at that time; and yet, with his unfailing modesty, Washington merely says: "An absence of more than four months from home, will be the best apology I can make for my silence till this time." How many men could have desisted from making some reference, however indirectly, to an undertaking which obviously had been very vital to the country's welfare, and which was destined to give him more honor than he already had received. Such is the measure of a truly great man.

This letter also contains a concise statement of the system of crop rotation used by the farmers along the Potomac at that time, and a report of the current prices received for farm products in Mount Vernon.

With his usual open-mindness, Washington wants to try out a new kind of "mill for separating the grain from the heads of corn" (wheat).[1] It was one of the earliest forms of threshers devised in England.

[1] When Washington means what we now call corn he refers to it as "maize," or "Indian corn."

TO ARTHUR YOUNG

Mount Vernon, 1 November, 1787.

Sir,

Your favor of the 1st of February came to hand about the middle of May last. An absence of more than four months from home, will be the best apology I can make for my silence till this time.

The grain, grass seeds, ploughs, &c., arrived at the same time, agreeably to the list; but some of the former were injured, as will always be the case, by being put into the hold of the vessel; however, upon the whole, they were in much better order than those things are generally found to be, when brought across the Atlantic.

I am at a loss, Sir, how to express the sense which I have of your particular attention to my commissions, and the very obliging manner in which you offer me your services in any matters relating to agriculture, that I may have to transact in England. If my warmest thanks will in any measure compensate for these favors, I must beg you to accept of them. I shall always be exceedingly happy to hear from you, and shall very readily and cheerfully give you any information relative to the state of agriculture in this country, that I am able.

I did myself the honor to hand the set of "Annals" to the Agricultural Society in Philadelphia, which you sent to that body through me. The president wrote a letter to you, expressive of the sense they entertained of the favor which you did them; and mentioned therein the effects of some experiments which had been made with plaster of Paris as a manure. I intended to have given you an account of it myself, as I find the subject is touched upon in your "Annals," but this letter has precluded the necessity of it.

The fifth volume of the "Annals," which was committed to the care of Mr. Athawes for me, did not come to hand till some time after I had received the sixth.

The quantity of sainfoin, which you sent me, was fully sufficient to answer my purpose; I have sown part of it, but find that it comes up very thin; which is likewise the case with the winter wheat, and some other seeds which I have sown.

I have a high opinion of beans, as a preparation for wheat, and shall enter as largely upon the cultivation of them next year, as the quantity of seed I can procure will admit.

I am very glad that you did not engage a ploughman for me at the high wages which you mention; for I agree with you, that that single circumstance, exclusive of the others which you enumerate, is sufficiently objectionable. I have tried the ploughs which you sent me, and find that they answer the description which you gave me of them; this is contrary to the opinion of almost every one, who saw them before they were used; for it was thought their great weight would be an insuperable objection to their being drawn by two horses.

I am now preparing materials to build a barn precisely agreeable to your plan, which I think an excellent one. Before I undertake to give the information you request, respecting the arrangements of farms in this neighborhood, I must observe, that there is, perhaps, scarcely any part of America, where farming has been less attended to than in this State. The cultivation of tobacco has been almost the sole object with men of landed property, and consequently a regular course of crops has never been in view. The general custom has been, first to raise a crop of Indian corn (maize), which, according to the mode of cultivation, is a good preparation for wheat; then a crop of wheat; after

which the ground is respited (except from weeds, and every trash that can contribute to its foulness), for about eighteen months; and so on, alternately, without any dressing, till the land is exhausted; when it is turned out, without being sown with grass-seeds, or any method taken to restore it; and another piece is ruined in the same manner. No more cattle are raised, than can be supported by lowland meadows, swamps, &c., and the tops and blades of Indian corn; as very few persons have attended to sowing grasses, and connecting cattle with their crops. The Indian corn is the chief support of the laborers and horses. Our lands, as I mentioned in my first letter to you, were originally very good; but use and abuse have made them quite otherwise.

The above is the mode of cultivation which has been generally pursued here; but the system of husbandry, which has been found so beneficial in England, and which must be greatly promoted by your valuable "Annals," is now gaining ground. There are several, among whom I may class myself, who are endeavouring to get into your regular and systematic course of cropping, as fast as the nature of the business will admit; so that I hope in the course of a few years we shall make a more respectable figure as farmers, than we have hitherto done.

I will, agreeably to your desire, give you the prices of our products, as nearly as I am able; but you will readily conceive from the foregoing account, that they cannot be given with any precision. Wheat for the last four years will average about 4s. sterling per bushel, of eight gallons. Rye, about 2s. 4d. Oats, 1s. 6d. Beans, pease, &c., have not been sold in any quantities. Barley is not made here, from a prevailing opinion that the climate is not adapted to it. I, however, in opposition to prejudice, sowed about fifty bushels last spring, and found that it yielded a proportionate quan-

tity with any other kind of grain which I sowed; I might add, more. Cows may be bought at about £3 sterling per head. Cattle for slaughter vary from 2¼d. to 4½d. sterling per pound, the former being the current price in summer, the latter in the winter or spring. Sheep at 12s. sterling per head; and wool at about 1s. sterling per pound. I am not able to give you the price of labor, as the land is cultivated here wholly by slaves, and the price of labor in the towns is fluctuating, and governed altogether by circumstances.

Give me leave to repeat my thanks for your attention to me, and your polite offer to execute any business relating to husbandry, which I may have in England; and to assure you, that I shall not fail to apply to you for whatever I may have occasion for in that line. I am, Sir, with very great esteem, &c.

P.S. I observe in the sixth volume of your "Annals," there is a plate and description of Mr. Winlaw's mill, for separating the grain from the heads of corn. Its utility or inutility has, undoubtedly, been reduced to a certainty before this time; if it possesses all the properties and advantages mentioned in the description, and you can, from your own knowledge, or such information as you *entirely* rely on, recommend it as a useful machine, where laborers are scarce, I should be much obliged to you to procure one for me, to be paid for and forwarded by Mr. Welch, provided it is so simple in its construction, as to be worked by ignorant persons, without danger of being spoiled (for such only will manage it here), and the price of it does not exceed £15, as mentioned in the "Annals," or thereabouts.

8

RICHARD PETERS March 4, 1788.

The following letter indicates with what a keen observation Washington went about the country, and how he was always ready to try new methods of cultivation, or new machinery that might in any way increase the yield of his farms.

TO RICHARD PETERS

Mount Vernon, 4 March, 1788.

Sir,

When I had the pleasure to be at your house last summer, you showed me a triangular harrow with trowel tines, for the purpose of cultivating your dell crops. The appearance was prepossessing. But I forgot whether you spoke of its merits from theoretical or practical knowledge. If the latter, will you permit me to request the favor of you to direct your workmen, to furnish me with one complete in all its parts, accompanied with tines, or trowels, sufficient for four more. Colonel Biddle will pay the cost upon demand.

That you may be enabled to judge of the proper sizes, I will inform you for what particular uses they are intended.

From the experience of two years, one the wettest, the other the driest, that ever was felt in this neighborhood, I am persuaded, that as much Indian corn can be raised in rows as in any manner which has yet been tried, in such middling land, and with such management as is usually allowed for this grain, and that, by drilling potatoes between, the quantity of the latter will, at least, quadruple that of the former.

Whether potatoes, in addition to the corn, will bear too hard upon the soil, is a question that has received an affirmative and negative answer, and both, it is said, from the experience of husbandry. I mean, therefore, to learn that which seems most profitable, and I am already making the experiment. These harrows, then, are to work the intervals between the corn and potatoes; which being four feet only, the dimensions of them must be proportioned to the space they are to operate in. But, notwithstanding the levelness of my land, and the straightness and equidistance of my rows, it would seem, nevertheless, dangerous to depend upon a single bout of this implement, because, if perchance the width between the rows should exceed four feet, the ground will not be broken, and, if it falls short, the plants will be cut up. Twice, therefore, in each row, seems necessary for safe and proper tillage. I mention it for your consideration only; my own opinion of the matter, I must confess, is (but it yields to experience), that two feet from centre to centre of the hindmost tines would be a proper medium. This, with the outer tines of the trowel, will stir near or quite two feet and a half of earth; and under certain circumstances may be sufficient, without going twice in the same row, for cultivation of the plants; at all events, two bouts will give part of it a double stirring.

I am, &c.

9

JOHN FAIRFAX March 31, 1789.

As Washington was about to leave Mount Vernon for Philadelphia to take up the duties of President of the United States, he wrote this letter of instructions to John Fairfax whom he had placed in charge of certain plantations. It is a remarkable letter because of the kind yet very firm admonitions to young Fairfax which it contains. It gives a good insight into Washington's methods of handling men.

The latter half of the second paragraph is a notable commentary upon business management, with special application to the farm, which every business man and every up-to-date farmer will do well to read carefully and thoughtfully.

TO JOHN FAIRFAX

Mount Vernon, 31 March, 1789.

Sir,

As I am now in the act of bidding adieu to my home, for a longer time perhaps than I wish, I will inform you that it is my intention, if your exertions shall appear to deserve it, to make the wages of the year you are now engaged for, fifty pounds instead of forty, although I consider myself under no obligation to do so; my own motives for it being to encourage you to use every endeavour in your power to promote my interest under the orders and directions of my nephew, who will be intrusted with the general management of all my concerns during my absence.

I have a very good opinion of your honesty, sobriety, and industry, and now is the time to give me proofs of your ca-

pacity and skill. The former, though of essential importance, are not sufficient without the latter. For, as I have often remarked to you, contrivance in business, and a judicious arrangement of it, should be the leading trait in the character of a manager. Indeed, they are of such infinite consequence, that no estate can be well conducted without them. Unless the different kinds of business, which occupy the laborerers of every plantation or farm, can be brought into one view and seen at a distance, they will for ever be interfering with and treading on the heels of each other. By foresight, arrangement, and the execution of a due proportion of work, this jumble is to be avoided.

It is with pain I receive the Saturday-night reports, for no week passes away without a diminution of my stock. Nor is it less painful to me to see the condition of my work-horses; some dying, and others scarcely able to walk, unincumbered with a plough. And I might add, as a matter of no less concern, that it is vain and idle for me to attempt to stall-feed any kind of meats, when I have only my expense for my pains, without a morsel of meat fit to appear at my table or for market. But I will rest in hopes, that these things will undergo a change for the better.

I am not inclined to your keeping a horse. There is no occasion for it. My own are adequate to all the services, that my business will require, and more would add expense without profit; as I need not tell you that there must be no more running about, whilst I am absent, than if I were on the spot. Indeed, I have too good an opinion of you to suppose it necessary to remind you of this.

As I have already given you plans of those plantations, which are committed to your care, and have detailed the business of each in the best manner my time and judgment would enable me to do, I shall add nothing more on this

head, than briefly to observe to you, that it is from my nephew, with whom I shall correspond, that you will receive further directions, with respect to such matters as have not been detailed, or concerning any alterations in those which have.

If you have any matrimonial scheme in view, I do not wish to be any let or bar to the accomplishment of it, or to your bringing a wife into the family, who may fare as you do in it.

I am, Sir, &c.

10

GEORGE A. WASHINGTON March 31, 1789.

This letter was written by Washington to his nephew who was to "be trusted with the general management of all my concerns during my absence." It is a long letter, and full of explicit instructions as to the future management of his business affairs. One is amazed at Washington's complete mastery of detail as suggested by this letter. Yet he was not without the capacity of viewing things at a distance, and getting them into their proper proportion. This must have been one of his secrets of success as a general, and later as a president.

A very good insight into his farming methods is obtained by a careful reading of the following letter.

TO GEORGE A. WASHINGTON

Directions for George A. Washington, respecting the Management of the Plantation and other affairs at Mount Vernon.

31 March, 1789.

Having given very full and ample details of the intended crops, and my ideas of the modes of managing them at the several plantations, little, if these are observed, needs be added on this subject. But as the profit of every farm is greater or less, in proportion to the quantity of manure, which is made thereon, or can be obtained by keeping the fields in good conditions, these two important requisites ought never to be lost sight of.

To effect the former, besides the ordinary means of farmyards, cow-pens, sheep-folds, stables, &c., it would be of

essential use, if a certain proportion of the force of each plantation could be appropriated, in the summer or early part of autumn, to the purpose of getting up mud to be ameliorated by the frosts of winter for the spring crops, which are to follow. And to accomplish the latter, the gullies in these fields, previous to their being sown with grain and grass-seeds, ought invariably to be filled up. By so doing, and a small sprinkling of manure thereon, they will acquire a green sward, and strength of soil sufficient to preserve them. These are the only means I know of, by which exhausted lands can be recovered, and an estate rescued from destruction.

Although a precise number of tobacco hills is by my general directions allotted to each plantation, yet my real intention is, that no more ground shall be appropriated to this crop, than what is either naturally *very* good (for which purpose small spots may be chosen), or what can be made strong by manure of some kind or other; for my object is to labor for profit, and therefore to regard quality, instead of quantity, there being, except in the article of manuring, no difference between attending a good plant and an indifferent one. But in any event, let the precise number of hills be ascertained, that an estimate may be formed of their yield to the thousand.

Being thoroughly convinced, from experience, that embezzlement and waste of crops (to say nothing of the various accidents to which they are liable by delays) are increased proportionably to the time they are suffered to remain on hand, my wish is, as soon as circumstances will permit after the grain is harvested, that it may be got out of the straw, especially at the plantations where there are no barns, and either disposed of in proper deposites, or sold, if it is wheat, and the price is tolerable, after it has been converted into

flour. When this work is set about as the sole, or as a serious business, it will be executed properly. But when a little is done now, and a little then, there is more waste, even if there should be no embezzlement, than can well be conceived.

One or two other matters I beg may be invariably attended to. The first is to begin harvest as soon as the grain can be cut with safety; and the next, to get it in the ground in due season. Wheat should be sown by the last of August; at any rate by the 10th of September; and other fall grain as soon after as possible. Spring grain and grass seeds should be sown as soon as the ground can possibly, with propriety, be prepared for their reception.

For such essential purposes as may absolutely require the aid of the ditchers, they may be taken from that work. At all other times they must proceed in the manner, which has been directed formerly; and in making the new roads from the Ferry to the Mill, and from the Tumbling Dam across the Neck, till it communicates with the Alexandria road, as has been pointed out on the spot. The ditch from the Ferry to the Mill along this road may be a common four-feet one. But from the Mill to the Tumbling Dam, and thence across to the head of the old field by Muddy-Hole fence, it must be five feet wide at top, but no deeper than the four-feet one, and the same width at bottom as the latter.

After the carpenters have given security to the old barn in the Neck, they must proceed to the completion of the new one at the Ferry, according to the plan and the explanations, which have been given. Gunner and Davis should get bricks made for this purpose; and if John Knowles could be spared (his work, not only with respect to time, but quantity and quality to be amply returned) to examine the bilged walls, and the security of them, but to level and lay the foundations of the other work, when the bricks are ready, it would

be rendering me an essential service; and, as the work might be returned in proper season, would be no detriment to your building.

When the brick work is executed at the Ferry Barn, Gunner and Davis must repair to Dogue Run, and make bricks there; at the place and in the manner, which have been directed, that I may have no salmon bricks in that building.

Oyster shells should be bought, whenever they are offered for sale, if good and on reasonable terms.

Such money as you may receive for flour, barley, fish, as also for other things, which can be spared and sold; and for rents, the use of the jacks, &c.; and for book debts, which may be tried, though little is expected from the justice of those who have been long indulged; may be applied to the payment of workmen's wages as they arise, Fairfax, and the taxes, and likewise to the payment of any just debts, which I may be owing in small sums, and have not been able to discharge previous to my leaving the State. The residue may await further orders.

As I shall want shingles, plank, nails, rum for harvest, scantling, and such like things, which would cost me money at another time, fish may be bartered for them. The scantling, if any is taken, must be such as will suit for the barn now about to be built, or that at Dogue Run, without waste and of good quality.

I find it is indispensably necessary, for two reasons, to save my own clover and timothy seed; first, because it is the only certain means of having it good and in due season; and, secondly, because I find it is a heavy article to purchase.

Save all the honey-locusts you can, of those which belong to me; if more could be obtained, the better. And, in the fall, plant them on the ditches where they are to remain, about six inches apart, one seed from another.

The seeds, which are on the case in my study, ought, without loss of time, to be sown and planted in my botanical garden, and proper memoranda kept of the times and places.

You will use your best endeavours to obtain the means for support of G. and L. Washington, who, I expect, will board, till something further can be decided on, with Dr. Craik; who must be requested to see that they are decently and properly provided with clothes from Mr. Porter's store. He will give them a credit on my becoming answerable to him for the payment. And, as I know of no resources, that H. has for supplies but from me, Fanny will, from time to time, as occasion may require, have such things got for her, on my account, as she shall judge necessary. Mrs. Washington will, I expect, leave her tolerably well provided with common articles for the present.

My memorandum books, which will be left in my study, will inform you of the times and places, when, and where, different kinds of wheat, grass-seeds, &c., were sown. Let particular attention be paid to the quality and quantity of each sort, that a proper judgment of them may be formed. To do this, great care must be taken to prevent mixture of the several sorts, as they are so contiguous to each other.

The general superintendence of my affairs is all I require of you; for it is neither my desire nor wish, that you should become a drudge to it, or that you should refrain from any amusements or visitings, which may be agreeable, either to Fanny or yourself to make or receive. If Fairfax, the farmer, and Thomas Green, on each of whom I have endeavoured to impress a proper sense of their duty, will act their part with propriety and fidelity, nothing more will be necessary for you to do, than would comport with amusement and that exercise which is conducive to health. Nor is it my wish, that you should live in too parsimonious a manner. Frugal-

ity and economy are undoubtedly commendable, and all that is required. Happily for this country, these virtues prevail more and more every day among all classes of citizens. I have heard of, and I have seen with pleasure, a remarkable change in the mode of living from what it was a year or two ago; and nothing but the event, which I dreaded would take place soon, has prevented my following the example. Indeed, necessity, if this had not happened, would have forced me into the measure, as my means are not adequate to the expense at which I have lived since my retirement to what is called private life. Sincerely wishing you health and happiness, I am ever your warm friend and affectionate uncle.

A VIEW OF THE WORK AT THE SEVERAL PLANTATIONS AT MOUNT VERNON, IN THE YEAR 1789, AND GENERAL DIRECTIONS FOR THE EXECUTION OF IT

From the plans of the plantations, from the courses of the crops, which are annexed to these plans, and from the mode of managing them as there prescribed, may be derived a full and comprehensive view of my designs, after the rotation is once perfectly established, in the succession that is proposed. But as this cannot, at all the plantations, be adopted this year, every thing in the mean time must be made to tend to it, against the next, as far as circumstances will admit.

Muddy-Hole Farm

The ploughs belonging to this plantation, together with those from Dogue Run, are to continue, without interruption or delay, when not prevented by frost or rain, to break up field No. 5 for Indian corn. And, when this is accomplished, next to break up No. 4 for buckwheat, which is to be sowed in April, and ploughed in before harvest, as a manure for the crop of wheat, which is to be sown therein in the month

of August next, after these ploughings are performed.

Then, as there is no field at this plantation, which can with convenience be appropriated for spring grain, or for the crop of sundries this year, and as the ploughs at Dogue Run, especially if the winter should prove hard and unfavorable, will not be able, of themselves, to break up fields No. 4 and No. 6 at their own plantation, and at the same time prepare those of No. 3 for barley and oats, and No. 7 for Indian corn, in due season, the whole may go to Dogue Run, till the corn at Muddy Hole shall want them, and work in No. 6, if the condition of it is such as to admit thereof; or in No. 4 at the same place, if it is not; for the respective crops which are designed for them.

The fence on the Ferry road, from the division between the fields No. 4 and No. 5 to the lane on the Mill road, must be repaired with new rails; but from thence to the gate leading to the barn from the overseer's house it should be made tolerably secure with rails, which may be taken from the opposite side.

As the days are short, walking bad, and the different kinds of stock will require careful attendance, it may perhaps be best to relinquish the idea of the people of this place having any thing further to do with the new ground at the Mansion House; and when not employed, in open weather, with their fencing, to be threshing out grain. But there is a work of great importance, if the weather and other circumstances would concur for the execution of it in season. I mean, that of getting up rich mud from the most convenient parts of the creek, and laying it in small heaps, for amelioration, to be carried over the poor parts of No. 5, which will be in corn. If this last-mentioned work can be accomplished (and it must be done soon, if any effect is expected from it this year, in order that the frost may have time to operate), the

cart may be employed in hauling it to the ground.

Another piece of work to be done here, as I propose to make a small quantity of tobacco at this, as well as at my other plantations, is, to hill the ground that is marked off for it, in time. But, previous to hilling, it must be laid off with the plough into three-feet squares, that the hills may be made directly on the cross; so that, in the early stages of the growth of the tobacco, it may be tended with a plough each way.

If these several kinds of work should not afford sufficient employment for the hoe people, with the cultivation of the ground, which will be marked out for potatoes and carrots, and which ought to be ploughed up immediately, they may be preparing field No. 6, on the creek, for corn in 1790. In the execution of this work, the cedar trees are not to be cut down, but trimmed only; and other trees left here and there for shades. The brush and rubbish, of all sorts, are to be thrown into the gullies and covered over, so as to admit the ploughs to pass.

Both parts of field No. 1 should from this time be withheld from stock of all kinds, that there may be, in the spring, early food for the ewes, lambs, and calves. Field No. 3, now in wheat and rye, must be sown with clover and timothy on the first snow that falls, six pints of the first, and two of the latter per acre.

Dogue-Run Farm

The ploughs belonging to this plantation, when they have performed what has already been directed for them at Muddy Hole, together with those of the latter, are to begin, if the ground will admit of it, to break up No. 6 for buckwheat, to be sown in April. But if this, on account of the levelness of the field and the water which may stand on it, cannot

be done, then plough No. 4 for the crop of sundries. But, as it is of essential importance, that the oats and barley should be sown early, and the working of the fields for Indian corn not so much delayed as to endanger the prospect for that crop, the ploughings of both No. 6 and No. 4 must be delayed, at least till the oats and barley are in, if they cannot be broken up in season for the above purposes. The oats ought to be sown in February, next the post-and-rail fence; and the barley as soon after as possible, on the other side, adjoining the corn. With both, clover and timothy, in the proportions already mentioned, are to be sown.

After the above work is accomplished, it will be time to cross-plough and sow such parts of No. 4 as are intended for carrots, and this is to be done in drills four feet asunder; and, if the ground is dry enough, in the month of March, and for flax, which should be sown in April.

By the time these are done, possibly before it, the fields for corn will want listing. This corn, in the south part of the field, next to the woods, may be planted at five feet each way, with two stalks in a hill, and in the north part, next to Colonel Mason's, at four feet each way, with one stalk in a hill. The ploughings and harrowings necessary for which, without going into detail with respect to the manner and times, must be given when wanted.

The sowing of buckwheat in April for manure seems to be the next thing which calls for the ploughs; because it ought to be in the ground as soon as all danger of frost is over, that it may be in the proper state (full bloom) for ploughing in before harvest.

After buckwheat, pease will come next, and the ground for these, as for the tobacco, must be laid off in squares for hilling, that they may, before they begin to run and spread, be ploughed each way. They ought to be planted in May.

Pumpkins, potatoes, turnips, and buckwheat for a crop, in the order they are mentioned, will next claim the assistance of the ploughs. The first should be planted in May, in hills eight feet apart, and well manured. The second in June, in drills four feet apart, and a foot asunder in the rows, with a large handful of manure on each potato, which should be uncut and of the largest sort. The third, that is, turnips, to be sown partly in June, and partly in July. And the fourth, buckwheat, as near as may be to the 10th of July.

This field of sundries may be thus apportioned; carrots, five acres; potatoes, five; pumpkins, one; turnips, one; pease, fifteen; flax, three; tobacco, five; buckwheat, thirty-five; being seventy acres in all.

That it may be ascertained, by repeated experiments, whether carrots or potatoes are the most productive and valuable root, I would have the ten acres allotted for them in one square, and the rows for each alternate through the whole square, and each to have the same quantity of manure allowed to it.

The work, which has been mentioned for the ploughs, together with the ploughing in of the buckwheat before harvest, the wheat after harvest, with the workings of the several species of crops during their growth, is all the employment that can be recollected at present for this part of the force of the plantation, until the autumn ploughing for the next year's crop commences. But, as these, till the system is brought more into practice, and the preceding crop as a better preparation of the ground for the succeeding one than is the case at present, will require much exertion and an addition of ploughs, one may be added to the number at Dogue Run, which will make five there; and another at Muddy Hole, which will make four there.

Much fencing is necessary at this plantation, before it can be said to be advantageously laid off, and in good order. That, which requires to be first done, is the one which divides field No. 4 from the meadow; but, as the rails, which are about the stacks, will be most convenient for this work, it may be delayed until they can be spared. In the mean time, no heavy stock must run in that field, to trample and poach the meadow.

The next, that requires doing, is the line from the head of the meadow to the new road, which is to be laid off, thence with the road to the Tumbling Dam, and thence round field No. 7, agreeably to the ploughing, and the rails which have been laid there.

Next after these, the cross fence between field No. 5 and the wood should be done, and then the fence, which was begun last year, but not finished, between fields No. 2 and No. 3. The fence which divides the first of these, that is, No. 2, from the great meadow, requires doing also. All these are essential; as it also is, to strengthen the post-and-rail fence, which divides No. 1 from No. 2 and No. 3; but, as this never can be made a good one, until the whole is taken down, and both posts and rails shortened, it must be postponed till there is time to do this; righting it up in such a manner, as to make it answer for the present, being all that can be attempted this year.

Lastly, when time will admit, after the posting and railing from the Tumbling Dam to the Mill is completed, the rails, which at present run upon that line, may serve to separate the great meadow into three divisions, as will be marked out.

Every thing, that the hoe people can do in the course of the winter towards getting the old crop off hand, and preparing for the new one, ought to be the first object of consideration, and must be closely attended to. Carrying out

manure, when the cart can be spared and the ground is in order for its reception, either for carrots, potatoes, tobacco, or other things, is not to be neglected. Grubbing and filling up gullies, in the fields which are to receive crops this year, is also essential. And, if these should not afford sufficient employment, the overplus time may be spent in clearing swamps, or the sides of them, so that they may hereafter, when drained effectually, be tended in tobacco previous to their being laid down in grass.

At this place, I propose to plant about thirty thousand tobacco plants, in field No. 4, round the houses and stacks, where they will be most convenient to the manure; and, where the ground is not very rich, I would join a gallon or a large double handful of manure to each hill. The ground for the crop ought to be broken up early, either with the ploughs or hoes, that the green sward may have time to rot. If thirty thousand hills cannot be got here, the deficiency may be made up by the gate that goes into field No. 5.

River Farm

Early and good ploughing at this place is indispensably necessary. The field No. 7, intended for spring grain, that is, barley and oats, would, if justice were done to it, call for a second or cross ploughing by the time the ploughs will begin to break it up. Consequently, field No. 1, designed for corn, will hardly get more than a listing, and the field No. 4, which ought to have received a crop of sundries, must go altogether uncultivated this year.

After field No. 7 is sown with barley, oats, and grass-seed, the latter in the proportion mentioned at the other places, if the preparation of No. 1 for corn cannot be postponed, without involving injurious consequences to that crop, the

ploughs must go there next, and do all that is necessary for getting it planted in time, and in good order.

But, as I do not mean to plant potatoes or carrots among corn this year, as was the case last year, inclining to allot separate spots for this purpose, these spots, and that which is intended for tobacco, ought to be immediately ploughed; that the weeds and grass, where there are any, may have time to rot, and the ground to be in order to receive manure. The spot, which I would principally appropriate for carrots and potatoes, is that whereon the flax grew last year, but if more can be conveniently obtained elsewhere, it ought to be had, as that spot is insufficient. The ground for tobacco (forty thousand plants) I mean to lay off in a long square, from the farm-pen up to field No. 2, which, when ploughed and checkered, will be ready to receive manure at times when the carts can with convenience carry it out.

All the ploughings, which are enumerated, being accomplished, the season probably will have arrived when No. 8 will require to be cross-ploughed, and sowed with buckwheat or manure, in April. This is, in all respects, to be managed as has been directed for Dogue Run, and after harvest is to receive wheat, in August, as there mentioned.

These, with the necessary workings of the several species of crops, which must not be neglected, will, it is presumed, give sufficient employment for the ploughs. If not, there can be no difficulty in finding work for them.

Much fencing is wanting on this plantation, before it can be in the order I wish to see it; but, among the most essential of these, is the fence which is to enclose field No. 1 for corn; that which runs from the second gate, going into the plantation, to the creek, dividing my land from Colonel Mason's; and that which is to form the lane, which is to lead from the barn into the lane which now goes to Johnson's, and which

must continue the other way, so as to open a communication with the fields No. 1, No. 2, No. 3, and No. 4. As timber is very scarce on this tract, it must in fencing, as well as in other things, be made to go as far as possible; consequently, posts and rails, of a good and substantial kind, must be substituted instead of the usual kind of worm fences.

To point out all the work for the hoe people of this plantation is unnecessary. To finish the old, and to prepare for the new crop; to put up fences; to heap up the manure early, that it may get well and soon rotted; to carry it out, and to lay it in the furrows intended for carrots and potatoes, and on the ground intended for tobacco; making hills for the tobacco; grubbing and filling gullies in the fields, which are to receive crops this year, with old rails, old stumps, old trees, and such other rubbish as can be had conveniently; levelling the bank, on which a fence formerly ran through field No. 8; will, with the cultivation of the crops that will be planted and sown, and gathering them in, compose the greater part, if not all, of their labor. But if there should, notwithstanding, be time for other things, I know of nothing in which they could be more advantageously employed, than in getting up rich mud from the branches in field No. 8, to spread over the poor and washed parts of that field, before it is sown in wheat next August.

Mansion-House Farm

The ditchers, after the post-and-rail fence, which they are now about, to the Tumbling Dam is completed, and a strong one put across the Mill Run, as will be marked off, may continue on to the Mill by the line of stakes, which will be set up; but they are not to use for this purpose those posts, which were got by Marley's house, as they will be more convenient for the lane, which is to form the new road from

the Ferry by the Mill, as authorized by the court. After this work is performed, it will be time enough to point out more.

To say what the other part of the force at this place shall be employed about, is next to impossible, since there is such a variety of jobs for them to attend to, besides fishing, hay-making, and the grain harvest in their respective seasons, which must unavoidably employ them while they last.

But, as it is designed to raise tobacco, and to tend in corn that part, at least, of the new ground in front of the house, which was cleared last year, in order that it may be laid down in the fall in wheat and orchard grass, they must prepare for them accordingly, and, under the circumstances above mentioned, attempt as much of the first, that is, tobacco, as there is a moral certainty of their tending well. The men may be employed in getting posts and rails of a good kind for the purpose of enclosing this tobacco. But it is essential, if any labor is expected from the girls and boys, who are about this house, to keep some person with them, who will not only make them work, but who will see that the work is well executed, and that the idleness, which they appear every day in the practice of, may be avoided.

1789.

SPECIMEN STATEMENTS OF CROPS, AND OF REPORTS BY THE MANAGER

April 14, 1792.

These *Specimen Statements of Crops*, and *Reports of the Manager* are here inserted to give the reader an idea of the system of farm accounts used by Washington, as well as to indicate the thorough and methodical way he kept in touch with the operations upon his plantations while he was in office.

It may surprise some farmers of today who look with doubt upon various systems of farm accounting,— considering them only new fads in farming,— to realize that one hundred and twenty five years ago George Washington believed in the utility and value of such procedure.

FIRST STATEMENT OF THE CROPS IN 1789

	Acres	Acres	Harrowed
Corn; 375 acres. 1 ploughing in the fall of 1788....	375		
Listing the field in March, about ¼ of the above work	94		
Opening the furrows in April, ⅓ of the last work	31		
Breaking up the balks in May, ¾ of the whole.	281		
Ploughing do. in June, do. do.	281		
Do. do. in July, do. do.	281		
		1343	
Three times harrowed, do. do. each	281		843
Rye; 375 acres. Once ploughed for seeding in September		281	
Once harrowed do			281
Buckwheat; 375 acres. One ploughing after Rye comes off	375		
One do in April	375		
		750	
Three harrowings, 1 before, and 2 after sowing			1125

	Acres	Acres	Harrowed
Wheat; 375 acres Ploughing in buckwheat in June.	375		
do. seeding ground with wheat in Aug.	375		
		750	
One harrowing after sowing			375
Sundries; 375 acres. One ploughing in the fall of 1788	375		
75 do. in Pease ploughed into 3 ft. ridges in Apr.	75		
Checkered, about ¼ of above work in April	19		
234 do. in Buckwheat for a crop, ploughed in Apr.	234		
1st July do.	234		
Three times harrowed 1st of July			702
8 do. Scarcity ploughed in March	8		
do. May	8		
do. July	8		
8 do. Pumpkins, ploughed in March	8		
do. May	8		
do. July	8		
20 do. Flax, ploughed in March	20		
do. April	20		
		1025	
Three times harrowed			60
Barley; 375 acres. First ploughing January or February	375		
Second do. February or March	375	750	
Three times harrowed			1125
		4899	4511

Of the above Work

Between the 1st of October and Christmas, Corn amounts to	375		
Buckwheat amounts to	375		
Sundries " "	375		
		1125	
In January and February, Barley, first ploughing,		375	
February and May, do. second "		375	1125
March, listing for Corn as above	94		
Ploughing first time for Root of Scarcity	8		
Do. do. Flax	20		
Do. do. Pumpkins	8	130	

	Acres	Acres	Harrowed
April, second ploughing for Flax	20		60
do. Pease, in three-feet ridges	75		
Do. checkered	19		
Opening Corn lists for planting	31		
Buckwheat for manure	375	520	1125
May, Do. for seed	234		
Pumpkins, second ploughing, 8; Root of Scarcity, 8	16		
Breaking balks between Corn	281	531	281
June, ploughing Corn second time	281		281
do. Buckwheat for manure	375	656	
July, Buckwheat for seed	234		702
Third ploughing of Corn	281		281
Third do. Root of Scarcity, 8; Pumpkins, 8	16	531	
August, Wheat		375	375
September, Rye		281	281
		4899	4511

Results of the First Statement

Dr.	£.	s.	d.	Cr.	£.	s.	d.
For 375 bushels Rye for seed at 3s...	56	5	0	By 5625 bushels Corn, at 3s.	843	0	0
375 bushels Buckwheat, for seed at 2s...	37	10	0	5625 do. Rye, 3s.....	843	0	0
375 bushels Wheat, for seed at 5s.	93	15	0	5625 do. Potatoes, 1s.	281	5	0
750 bushels Barley for seed at 3s. 6d.	131	5	0	4500 do. Barley, 3s.6d.	787	0	0
Sundries, viz.				3750 do. Wheat, 5s....	937	10	0
75 bush. Pease for seed, at 4s...	15	0	0	Sundries, viz.			
234 bush. Buckwheat, 2s. ..	23	8	0	1404 bushels Buckwheat, at 2s.	140	8	0
30 bush. Flax, 3s. 6d.	5	5	0	375 bushels Pease, 4s..	75	0	0
3750 lbs. Clover seed, 8d.	125	0	0	100 bushels Flax seed, 3s. 6d.	17	10	0
3120 bushels of Corn for negroes, at 3s. ..	468	0	0	Dressed Flax Buckwheat, 375 acres for manure.			
2750 bushels of Rye for horses, 3s	412	10	0		£3924	13	0
				375 acres Clover, 20s	375		
					£4299	13	0

	£.	s.	d.
100 bushels Salt, 2s. 6d.	12	10	0
330 gallons Rum, 2s....	33	0	0
750 bushels of Potatoes, for seed, 1s.	37	10	0
	£1450	18	0

	£.	s.	d.
100 thousand Tobacco hills, 20 hhds. £7. 10s.	150		
	£4449	13	0

SECOND STATEMENT OF CROPS IN 1789.

	Acres	Acres	Harrowed
Corn; 375 acres. Same in all respects as No. 1.....		1343	843
Buckwheat; 375 acres. First ploughing in April....	375		
Second do. last of June....	375	750	
Three harrowings			1125
Wheat; 375 acres. One ploughing after the Buckwheat is cut		375	
Two harrowings			750
Sundries; 375 acres. The same as No. 1.....		1025	762
Barley; 375 acres. The same as No. 1		750	1125
		4243	4605

Of the above Work

	Acres	Acres	Harrowed
One ploughing for Corn, 1788		375	
Fall, one ploughing for Sundries, do		375	
January and February, first ploughing for Barley..	375		
February and March, second do do ...	375		
		750	1125
March, listing for Corn	94		
ploughing first time for Root of Scarcity...	8		
do. do. Flax	20		
do. do. Pumpkins	8		
		130	
April second ploughing for Flax	20		60
do. Pease, in three-feet ridges	75		
do. checkered	19		
Opening Corn lists	31		
First ploughing for Buckwheat for a crop....	375		
		520	

	Acres	Acres	Harrowed
May, first ploughing of Buckwheat among the sundries	234		
Pumpkins, second ploughing, 8 acres; Scarcity, 8 do	16		
Ploughing balks between Corn, first time	281		
		531	281
June, ploughing Corn second time	281		281
second do. of Buckwheat	375		
		656	1125
July, the same	234		702
Corn third time	281		281
Third ploughing for Scarcity, 8; for Pumpkins, 8	16		
		531	
August, ploughing for Wheat		375	750
		4243	4605

Dr. *Results of the Second Statement.* Cr.

	£	s.	d.
For 375 bushels of Buckwheat for seed, 2s.	37	10	0
375 bushels seed Wheat, 5s.	93	15	0
Sundries, viz.			
75 bushels Pease, 4s.	15	0	0
234 bushels Buckwheat, 2s.	23	8	0
30 bushels Flax seed, 3s. 6d.	5	5	0
750 bushels Barley, 3s. 6d.	131	5	0
3750 lbs. Clover seed, 8d.	125	0	0
3120 bushels of Corn, 3s.	468	0	0
2750 do. Rye, 3s.	412	10	0
100 do. Salt, 2s. 6d.	12	10	0
330 gallons Rum, 2s.	33	0	0
750 bushels potatoes for seed, 1s.	37	10	0
	£1,394	13	0

	£	s.	d.
By 5625 bushels of Corn, 3s.	843	0	0
5625 do. Potatoes, 1s.	281	5	0
Buckwheat ploughed in for manure.			
3750 bushels Wheat, 5s,	937	10	0
Sundries, viz.			
375 bushels of Pease, 4s	75	0	0
1404 do. Buckwheat, 2s.	140	8	0
4500 do. Barley, 3s. 6d.	787	0	0
100 do. Flax seed, 3s. 6d.	17	10	0
	£3,081	13	0
Dressed Flax.			
375 acres Clover, 20s.	375		
375 do. do. do.	375		
	£3,831	13	0

THIRD STATEMENT OF CROPS FOR 1789

	Acres	Harrowed
Corn; 375 acres. The same as No. 1 and No. 2.....	1343	843
Barley; 375 acres. do. do. do.	750	1125
Buckwheat; 375 acres. Ploughed in fall, in March and April	1125	1125
Wheat; 375 acres. Ploughed in June, to cover Buckwheat and Corn in August	750	375
Flax; 20 acres. Ploughed twice, harrowed three times....	40	60
	4008	3528

Of the above Work

	Acres	Acres	Harrowed
Fall, one ploughing for Corn, 1788	375		
do. Buckwheat, do.	375	750	
January and February, first ploughing for Barley..	375		
February and March, second do. do. ...	375	750	1125
March, listing for Corn	94		
Second ploughing for Buckwheat	375		
First do. Flax	20	489	
April, second do. do.	20		60
Third do. Buckwheat	375		750
Opening Corn lists	31	426	
May, breaking up the balks between Corn		281	281
June, second ploughing of Corn	281		281
Ploughing in Buckwheat	375	656	
July, ploughing Corn the third time.....	281		281
Ploughing for Wheat or Buckwheat.....	375	656	750
		4008	3528

Results of Third Statement.

Dr.	£	s.	d.		Cr.	£	s.	d.
For 750 bushels of Barley, for seed, at 3s. 6d.	131	15	0		By 5625 bushels of Corn, 3s.	843	0	0
					5625 do. Potatoes, 1s..	281	5	0

	£	s.	d.
375 bushels Buckwheat, 2s.	37	10	0
375 bushels Wheat, 5s.	93	15	0
3750 lbs. Clover seed, 8d.	125	0	0
30 bushels of Flax seed	5	5	0
3120 bushels corn, 3s.	468	0	0
2750 bushels Rye for horses, ...	412	10	0
100 bushels Salt, 2s. 6d.	12	10	0
330 gallons of Rum, 2s.	33	10	0
750 bushels of Potatoes for seed, 1s.	37	10	0
	£1,357	5	0

	£	s.	d.
4500 do. Barley, 3s. 6d.	787	0	0
3750 do. Wheat, 5s....	937	10	0
Buckwheat for manure			
100 bush. Flax seed, 3s. 6d.	17	10	0
	£2,866	5	0
375 acres of Clover, 20s.	375		
375 do. do. do.	375		
375 do. do. do.	375		
	£3,091	5	0

MANAGER'S WEEKLY REPORT

April 14th, 1792.

Meteorological Table.

	Morning	Noon	Night
April 8th,	E. Clear	S. E. Cloudy	S. E. Rain
" 9th,	S. E. Rain	S. E. Cloudy	S. E. Cloudy
" 10th,	S. W. Cloudy	S. W. Rain	60 S. E. Rain
" 11th,	58 E. Rain	S. E. Rain	58 S. E. Rain
" 12th,	57 N. E. Rain	56 N. E. Hard Rain	54 N. E. Cloudy
" 13th,	52 N. E. Cloudy	56 N. E. Rain	58 N. E. Rain
" 14th,	54 N. W. Cloudy	58 N. W. Cloudy	52 N. W. Clear

Dr.	Days
Mansion-House Farm for the work of 12 men, 6 boys, and 4 girls, amounting per week to	132

Cr.	
By a wagon hauling posts and rails to Ferry-Barn lane.....	1
By do. hauling hay 1, stocks 1, timber for shafts for carts and moving park rails 1	3
By hauling 6 barrels salt to Major Washington's landing, and bringing home straw	1

Cr.	Days
By carts hauling manure from Ferry Barn to No. 2 French's	6
By cleaning loose manure about stables, and hauling it to lot intended for lucerne	5
By hauling corn from Ferry, and bran and meal from Mill wood to Mansion	2
By hauling stones to repair the crossing-place of Muddy-Hole Swamp, at the head of French's meadow.....	2
By Old Jack in care of granary 6, Old Frank in care of stock 6....	12
By Peter, in care of mares, mules, and jacks	6
By Gunner digging brick earth 3, cutting poles to build a brick house 2	5
By putting up post-and-rail fence leading to Ferry Barn.....	5
By hauling seine, cleaning, striking, and packing fish.....	41
By Easter Monday	22
By sickness Boatswain 6, Mima 3, Richmond 3, Postilion Joe 3, Lynna 3, Sam 3	21
Total.....	132

Increase, 2 Calves and 2 Mules. Received from Mill, 22 bushels of Meal, and 29 bushels of Bran; from Ferry, 3 barrels of Corn. Stock, 11 head of Cattle, 4 Calves, 60 Sheep, 28 Lambs, 4 working Mares, 4 do. Horses, 5 Colts, 4 spring do., 2 Jacks, 2 old Jennies, 1 do. three years old, 1 do. two years old, 1 do. one year old, 15 Mules, 10 one year old, 2 spring do.; and 11 Mares.

Dr.	Days
Ditchers, for the work of 6 men, amounting per week to.....	36
Cr.	
By Baths and Paschal mortising posts 1, fencing Ferry-Barn new lane 4	10
By Boatswain and Robin mauling rails 1, and fencing as above 4..	10
By Charles hauling seine	5
By Dundee sawing trunnels with Dogue-Run hands	5
By Easter Monday	6
Total.....	36

N. B. There has been almost one day and part of another lost by rain this week.

Dr.	Days
Muddy-Hole Farm for the work of 3 men and 9 women, amounting per week to	72
Cr.	
By listing in No. 2	4

Cr.	Days
By a cart hauling stakes and trunnels to the fence between Nos. 1 and 7	3
By hauling rails to No. 1 Lane fence	1
By raising the bank with a plough and hoes between No. 1 and No. 7	11
By putting up fences on said bank 19, cutting stakes and trunnels for do. 7	26
By taking down and new setting the Lane fence of No. 1	7
By Easter Monday	12
By sickness, Kate 3, Amy 2, Molly 3	8
Total	72

Received from Mill 6 bushels of Meal, and 6 bushels of Rye Meal.— Stock, 37 head of cattle, 5 Calves, 30 Sheep, 8 working Horses, and 1 Mule.

Dr.	Days
Ferry and French's Farms for the work of 7 men, 16 women, and 4 boys, amounting per week to	162
Cr.	
By listing new ground in French's meadow	16
By carts hauling stakes, rails, and trunnels to different fences	6
By hauling manure to No. 2 French's 3, hauling corn to Mill 1	4
By repairing fences, 34, burning logs and brush in the swamp, 30	64
By heaping manure 4, beating out corn 4, cutting and mauling stakes and trunnels, 4	12
By spinning 3, hauling seine 5, French's Tom at Mansion-House 5	13
By Easter Monday	27
By sickness, Doll 6, Old Daph 5, Betty 4, Rose 3, Delia 2	20
Total	162

Increase 2 Calves, and 5 Lambs.— Received from Mill, 12¼ bushels of Meal, sent do. 54 bushels of Corn. To Mansion-House 3 barrels of do., feed to Horses 1 barrel of do.— Stock, 83 head of Cattle, 5 Calves, 136 Sheep, 60 Lambs, 16 working Horses, and 2 Mules.

Dr.	Days
River Farm for the work of 9 men, 18 women, and 1 girl, amounting per week to	168
Cr.	
By listing in No. 6	10
By carts hauling manure on do	6
By hauling rails 2, going to Mill 1	3

Cr.	Days
By loading carts with manure 6, cutting straw 3	9
By plashing thorn hedge 4, repairing the bank of Lane fence No. 6	2
By stopping hog-hole in do. 6, putting up new fence next to the woods of do. 18	24
By cutting cornstalks, and getting them off	56
Lost by rain, or very little done	20
By Easter Monday	28
By Cornelia in childbed	6
Total	168

Increase, 2 Calves.— Received from Mill, 9¾ bushels of Meal, and 10 bushels of Rye Meal.— Stock, 83 head of Cattle, 5 Calves, 221 Sheep, 45 Lambs, 4 working Mares, 13 working Horses, and 1 Mule.

Dr.	Days
Dogue-Run Farm for the work of 6 men, 8 women, and 2 girls, amounting per week to	96
Cr.	
By listing in No. 2, 5, by ploughing in Mill meadow 2	7
By raising a bank with a plough and hoes in Mill meadow for the fence	19
By sawing trunnels 5, mauling do. 5, cutting in Mill meadow 2,	12
By repairing fence around the middle meadow	10
By repairing fence around No. 2, 7, by spinning 2	9
By hauling post and rails to Ferry-Barn new lane	5
By hauling rails to Mill meadow fence	3
By hauling rails to the middle meadow fence	2
By Easter Monday	16
By sickness, Grace 3, Molly 3, Sall 3, Cicely 4	13
Total	96

Received from Mill, 6¾ bushels of Meal.—Stock, 57 head of Cattle, 1 Calf, 124 Sheep, 9 working Horses, and 1 Mule.

Dr.	Days
Joiners and Carpenters for the work of 6 men and 2 boys, amounting per week to	48
Cr.	
By Thomas Green making sashes for the new quarter	5
By Mahony putting up the berths in do	5
By Isaac making and mending ploughs 4, getting ash for rake-handles 1	5
By Jam making a new cart and shafts, and getting beach stocks for planes	5

Cr.	Days
By Sambo and David sawing gate stuff 2, getting stocks and ash for rake-handles 6	8
By Sambo ripping plank on account of rain	1
By David with Isaac on account of do.	1
By Joe planing plank	5
By Christopher at do. 4, and 1 day with the wagon	5
By Easter Monday	8
Total	48

Dr. Mill for Sundries	Corn	Cr.	Meal	Bran	Rye Meal
Ferry and French's, 53		By Dogue-Run Plantation	6¾		
Toll Corn received,	9½	By River Plantation	9¾		10
		By Muddy Hole	6		6
		By Ferry and French's	12¼		
Total received	62½	By Mansion-House	22		
Toll Corn ground	56	Total delivered	56¾	20	16
		By Coopers and Miller	1		

12

ANTHONY WHITING November 11, 1792.

We have here a typical reply to a manager's report in which Washington shows his ability to criticize severely. It will be noticed that even the sawyer's faulty calculations of lumber do not escape Washington's careful eye.

Jared Sparks, an early biographer of Washington, says of these reports and their replies:

"While Washington was absent from home, in discharging the duties of President of the United States, it was his custom to exact from the manager at Mount Vernon, once in each week, a full report of the proceedings on all the farms. This paper is a sample of those reports. In the meteorological table, the figures denote the state of the thermometer, and the initial letters the direction of the wind. The design of this table was to communicate a knowledge of the weather, by which a more correct judgment could be formed of the amount of time, that the laborers could properly be employed at their work. Each report was accompanied with an explanatory letter from the manager, containing other particulars. These were regularly answered once a week by the President, and sometimes oftener. His letters frequently filled two or three sheets closely written. The importance he attached to these letters, and his diligence in preparing them, may be understood from the fact, that he first made rough drafts, which were copied out by himself in a fair hand before they were sent off. Press-copies were then taken, which he preserved. This habit was pursued, without intermission, from the beginning to the end of the Presidency." [1]

[1] *Sparks:* "The Writings of Washington," Vol. XII, p. 351.

TO ANTHONY WHITING

Philadelphia, 11 November, 1792.

Mr. Whiting,

Since my last, I have received your letters of the 2d and 7th instant, and shall notice such parts of them as require it, and give such directions respecting my business, committed to your management, as may occur to me.

I shall again express my wish, and, as the raising of corn at the Mansion-House is given up, will also add my anxiety, to have all the ground (except single trees and clumps here and there) cleared, and well cleared, as mentioned in a former letter, between the old clover lot and the sunken ground quite from the wharf to Richard's house and the gate; but, previously, do what has been desired from the cross fence by the spring, to the wharf. In clearing the whole of this ground, let all the ivy and flowering trees and shrubs remain on it, over and above the clumps, and other single trees where they may be thought requisite, for ornament. The present growing pines within that enclosure might be thinned, and brought more into form. When this is done, and all the low land from the river up to the gate laid down in grass, it will add much to the appearance of the place, and be a real benefit and convenience, as it will yield an abundance of grass.

All the hands, that can be conveniently spared, may be kept steadily at this work until it is accomplished, or till they are called off for other essential purposes. The ditchers too, when not employed about more essential work, may aid in this. And it will be necessary for you to think of some crop for the new part of the ground, that will require cultivation through the summer; otherwise the clearing of it will be labor in vain, as in a year or two, without cultiva-

tion, it will be as foul as ever.

By a vessel called the *President*, Captain Carhart, you will receive, I hope, the articles contained in the enclosed invoice and bill of lading. The linen, I expect, will be cut out and used to the best advantage. You will perceive there are two prices; let that, which bears the lowest price, be given to the boys and girls, and the highest price and best, to the grown and most deserving men and women, and the surplus (for there is more than you required) be put away securely.

The mulberry trees may be planted about in clumps, as mentioned in my letter by last post to the gardener. They are not trimmed, because, as I am informed, these trees may be propagated by cuttings from them, and save me the trouble and expense of sending more from this place. With respect to the shrubs from Mr. Bartram's botanical garden, directions at the foot of the list are given so fully, as to render it unnecessary to add aught concerning them in this letter; but the grapes the gardener must take particular care of, as they are of a very fine kind.

I send you, also, under cover with this letter, some seeds, which were given to me by an English farmer from the county of Essex, in England, lately arrived in this country to settle, and who appears to be a very sensible and judicious man, and a person of property. He also gave me a pamphlet upon the construction of the kind of plough, which he has used for many years; and the principles for putting the parts together, to make it work true and easy, which I will send to you so soon as I shall receive it from a gentleman to whom I lent it. The plough is simple in its make. The oats, which he gave me as a sample, exceed very little, if any, what I have grown myself. They may, however, in the spring be put into the ground by single seeds, to try what can be made of them. The cattle cabbage may also be tried.

Mr. Lambert, the name of the farmer from whom I had these things, says that the land, on which he and his father before him have lived for fifty or sixty years, is a stiff white clay; and, being at a distance from any source of manure, besides that which is made on the farm, they have pursued a different mode of cropping from that which is usually followed in England; and by so doing, with the aid of the internal manure of the farm, they have brought their poor, stiff land, which originally did not yield them more than five or six bushels of wheat to the acre, and other grain in proportion, to produce very generally from twenty-five to thirty of wheat, and from forty to fifty of barley. Their method has been to keep the arable land always perfectly clean, and alternately in crop or fallow; that is, to take a corn crop from it one year, and have it under the plough in a naked fallow, by way of preparation for the next crop, the next year; beginning this fallow in the autumn, when the ground is dry, again in the spring, as soon as it becomes dry, and three or four times after, before seeding for wheat (if wheat is the crop); never ploughing it wet, which is the cause, he says, of its running. He seems to understand the principles as well as the practice of husbandry, being a sensible man, and inured for a number of years (I suppose he is sixty) to the labor and practice of it. He has travelled a good deal about this country, and is of opinion that our great error lies in not keeping our arable land clean, and free from weeds. I observed to him, that the people of this country are of opinion, that naked fallows under our hot sun are injurious. He will not by any means admit the principle or the fact; but ascribes the impoverished state of our lands and bad crops to the weeds which he everywhere sees, and which both exhaust and foul it. By constant ploughing, these, he says, are eradicated; and when the fields come to be

laid in grass, which is sown, the hay will be pure and unmixed with any thing hurtful to it.

The giving way of the post-and-rail fencing proves, in a strong point of view, the necessity of seeing that all which is made hereafter be of a more substantial kind; that is, the posts larger, and the rails shorter; and it proves, too, the necessity of what I can never too often nor too strongly impress upon you, and that is, to begin and make a business of rearing hedges, without the loss of a single season; for really there is no time to lose. Set about it effectually. I am sure every plantation is now of sufficient force to spare labor for this purpose; not merely to scratch a little trench along the banks of the ditches, and therein put a few seeds, or cuttings, among weeds, briars, and every kind of trash, which will prevent their coming up, or choke them if they do. I would wish to have the seeds or cuttings of any thing tried, rather than that the attempt should be delayed, as it has hitherto been, from one season to another.

Desire Thomas Green to date his reports. That of the week before last I send back for explanation of his measurement of the sawing. I fancy it will puzzle him to make out 508 feet in the twenty-four plank there set down; for, as plank, length and breadth only could be measured. This would amount to no more than 296 feet. As scantling, length and side and edge would be measured, and this would give only about 310 or 312 feet. If he goes on at this rate, he will, in appearance, amend their work, though it will not in reality be any better. But, admitting that the true admeasurement was 508 feet, this would make but a miserable quantity for the time they were about it. That these people (sawyers I mean) may have no pretence for such idleness, not only get them two saws, but let them be of the largest and best kind. I have already told you, that the oak scant-

ling is to be got on the estate, and the place where. Let Thomas Green, while he is in the Neck, repair the overseer's house, as well as it can be done at this season. The scantling that is to be bought, should be got as soon as possible, that the carpenters may be framing it in the winter, or early in the spring.

Direct the miller to report every week the state of his manufactory of the wheat; as well as the receipts and delivery of the grain into and from the mill, that I may see how he proceeds in that business, and what flour he has on hand, that I may govern my directions accordingly.

I am very well satisfied with the reasons you assign for opening my letter to Mrs. Fanny Washington. It might, as you observe, have contained a request, which, as she was gone, you might have complied with.

You have never mentioned in any of your letters what has become of the mare I left at Georgetown, and which was to have been sent to Mount Vernon. I hope she got there safe, and is now well; in that case you may, occasionally, ride her; keeping her in good order against I may call for her.

How does your growing wheat look at this time? I hope no appearance of the Hessian fly is among it. On Patuxent, not far from you, I am told it is making such havoc amongst the growing wheat, as to render it necessary to sow over again. I am sorry to find No. 1, at French's, turn out so poor a crop of wheat, and that the fields at Muddy Hole have yielded still worse. How much wheat at that place came off the lot by the overseer's house?

In ploughing fields No. 3 and No. 4, Dogue Run, let them be so begun as that the rows when planted may run north and south, or as nearly so as the situation of the fields will admit.

In making your weekly reports, instead of referring to

the preceding week or weeks, for the state of your stock of different kinds, enumerate the number of each. I shall have it in my power then to see at one view the precise state of it without resorting to old accounts. And let me entreat, that you will examine them yourself, frequently, as a check upon the overseers; without which, rather than be themselves at the trouble of counting them, they will make you that kind of general report.

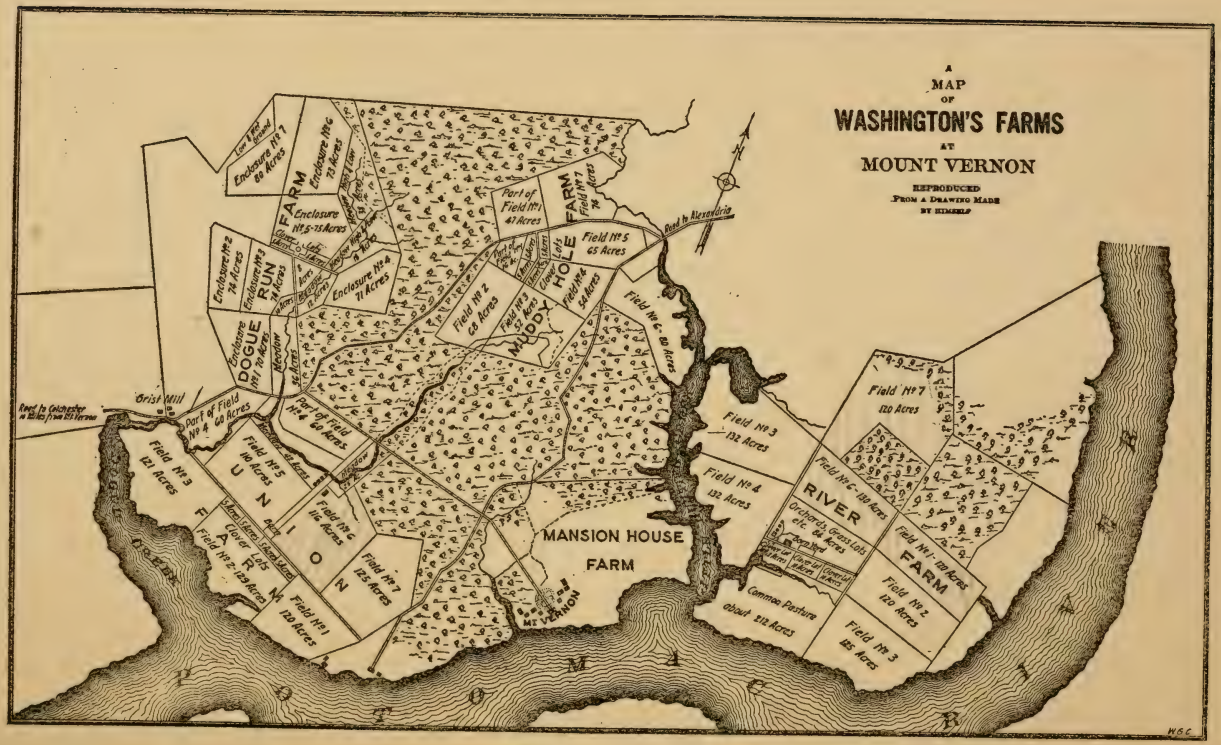
The coffee and tea, that I sent you some time ago, you are very welcome to use, and it is my desire you should do it.

The sheriff's bill for the taxes, which you paid while I was at home, cannot here be got at, as it is filed amongst my papers; but, as I want a copy of it for a particular reason, I should be glad if you would procure one from the sheriff, and send it to me exactly as it was handed in and paid. I want no receipt annexed to it. The account only is all I desire, containing the whole items of charges. I am your friend and well-wisher,

GEORGE WASHINGTON.

P.S. In clearing the wood, mark a road by an easy and graduated ascent from the marsh or low ground, up the hollow which leads into the lot beyond the fallen chestnut, about midway of the lot; and leave the trees standing thick on both sides of it, for a shade to it. On the west side of this hollow, if I recollect rightly, there was an old road formerly, but not laid out agreeably to the directions here given. It would look well, and perhaps might be convenient, if there was a road on both sides of this hollow, notwithstanding the hill-side on the east is steep. At any rate, trees where the road would go, if made, might be left for future decision, as they might also be along the side of the low land at the foot of the hill quite from the wharf to the gate by Richard's house. If that meadow should ever be thoroughly

reclaimed, and in good grass, a walk along the edge of it would be an agreeable thing; and leaving trees for this purpose may not be amiss, as they may at any time be removed, although time only can restore them if taken away in the first instance. And this would be a good general rule for you to observe in other parts of the same ground; as, if too thick, they can always be thinned; but, if too thin, there is no remedy but time to retrieve the error.


A
MAP
OF
WASHINGTON'S FARMS
AT
MOUNT VERNON
REPRODUCED
FROM A DRAWING MADE
BY HIMSELF
Road to Alexandria
Road to Colchester
Grist Mill
DOGUE RUN FARM
Enclosure No 1 70 Acres
Enclosure No 2 74 Acres
Enclosure No 3 74 Acres
Enclosure No 4 71 Acres
Enclosure No 5 75 Acres
Enclosure No 6 73 Acres
Enclosure No 7 80 Acres
Meadow
Part of Field No 4 60 Acres
Field No 1 120 Acres
Field No 2 125 Acres
Field No 3 121 Acres
Field No 5 110 Acres
Field No 6 116 Acres
Field No 7 125 Acres
Clover Lots
UNION FARM
MUDDY HOLE FARM
Part of Field No 1 47 Acres
Field No 2 68 Acres
Field No 3 52 Acres
Field No 4 54 Acres
Field No 5 65 Acres
Field No 6 80 Acres
Field No 7 74 Acres
MANSION HOUSE FARM
Mt VERNON
Field No 1 120 Acres
Field No 2 120 Acres
Field No 3 125 Acres
Field No 4 132 Acres
Field No 5 132 Acres
Field No 6 130 Acres
Field No 7 120 Acres
RIVER FARM
Orchard, Grass Lots etc. 84 Acres
Common Pasture about 212 Acres
POTOMAC RIVER
W.G.C.

ARTHUR YOUNG December 12, 1793.

This is perhaps the most important letter in this collection. For in it, Washington gives to us a detailed and careful description of his Mount Vernon Estate which was the scene of all his agricultural activities. Since he was a surveyor from youth, the map that he includes in his account of the estate is no doubt very reliable. It surely is an excellent help in forming an adequate conception of the extent of his farm holdings.[1]

TO ARTHUR YOUNG

Philadelphia, 12 December, 1793.

Sir,

I wrote to you three months ago, or more, by my late secretary and friend, Mr. Lear; but, as his departure from this country for Great Britain was delayed longer than he or I expected, it is at least probable, that that letter will not have reached your hands at a much earlier period than the one I am now writing.

At the time it was written, the thoughts which I am now about to disclose to you were not even in embryo; and whether, in the opinion of others, there be impropriety or not in communicating the object which has given birth to them, is not for me to decide. My own mind reproaches me

1 Besides the Mount Vernon Estate which contained 3260 acres, he held large tracts of land on the Ohio and great Kenhawa Rivers west of Pittsburg, amounting to 37,372 acres and three smaller tracts, two located in Washington and Fayette Counties, Pennsylvania, and a third near Wheeling, West Virginia. These three totaled 5,465 acres, making a grand total of all the land held by Washington in 1793 of 46,097 acres.

with none; but, if yours should view the subject differently, burn this letter, and the draught which accompanies it, and the whole matter will be consigned to oblivion.

All my landed property, east of the Appalachian Mountains, is under rent, except the estate called Mount Vernon. This, hitherto, I have kept in my own hands; but, from my present situation, from my advanced time of life, from a wish to live free from care, and as much at my ease as possible, during the remainder of it, and from other causes, which are not necessary to detail, I have latterly entertained serious thoughts of letting this estate also, reserving the Mansion-House Farm for my own residence, occupation, and amusement in agriculture; provided I can obtain what is, in my own judgment, and in the opinion of others whom I have consulted, the low rent which I shall mention hereafter; and provided also I can settle it with good farmers.

The quantity of ploughable land (including meadow), the relative situation of the farms to one another, and the division of these farms into separate enclosures, with the quantity and situation of the woodland appertaining to the tract, will be better delineated by the sketch herewith sent (which is made from actual surveys, subject nevertheless to revision and correction), than by a volume of words.

No estate in United America is more pleasantly situated than this. It lies in a high, dry, and healthy country, three hundred miles by water from the sea, and, as you will see by the plan, on one of the finest rivers in the world. Its margin is washed by more than ten miles of tide-water; from the bed of which, and the innumerable coves, inlets, and small marshes, with which it abounds, an inexhaustible fund of rich mud may be drawn, as a manure, either to be used separately, or in a compost, according to the judgment of the farmer. It is situated in a latitude between the extremes of heat and

cold, and is the same distance by land and water, with good roads and the best navigation, to and from the Federal City, Alexandria, and Georgetown; distant from the first, twelve, from the second, nine, and from the last, sixteen miles. The Federal City, in the year 1800, will become the seat of the general government of the United States. It is increasing fast in buildings, and rising into consequence; and will, I have no doubt, from the advantages given to it by nature, and its proximity to a rich interior country, and the Western territory, become the emporium of the United States.

The soil of the tract, of which I am speaking, is a good loam, more inclined however to clay than sand. From use, and I might add, abuse, it is become more and more consolidated, and of course heavier to work. The greater part is a greyish clay; some part is a dark mould; a very little is inclined to sand; and scarcely any to stone. A husbandman's wish would not lay the farms more level than they are; and yet some of the fields, but in no great degree, are washed into gullies, from which all of them have not as yet been recovered.

This river, which encompasses the land the distance abovementioned, is well supplied with various kinds of fish at all seasons of the year; and, in the spring, with the greatest profusion of shad, herrings, bass, carp, perch, sturgeon, &c. Several valuable fisheries appertain to the estate; the whole shore, in short, is one entire fishery.

There are, as you will perceive by the plan, four farms besides that at the mansion-house; these four contain three thousand two hundred and sixty acres of cultivable land, to which some hundreds more adjoining, as may be seen, might be added, if a greater quantity should be required; but as they were never designed for, so neither can it be said that they are calculated to suit, tenants of either the first,

or of the lower class; because those, who have the strength and resources proportioned to farms of from five hundred to twelve hundred acres (which these contain), would hardly be contented to live in such houses as are thereon; and, if they were to be divided and subdivided, so as to accommodate tenants of small means, say from fifty to one or two hundred acres, there would be none, except on the lots which might happen to include the present dwelling-houses of my overlookers (called bailiffs with you), barns, and negro-cabins; nor would I choose to have the woodland (already too much pillaged of its timber) ransacked, for the purpose of building many more. The soil, however, is excellent for bricks, or for mud-walls; and to the building of such houses there would be no limitation, nor to that of thatch for the cover of them.

The towns already mentioned, to those who might incline to encounter the expense, are able to furnish scantling, plank, and shingles, to any amount, and on reasonable terms; and they afford a ready market also for the produce of the land.

On what is called Union Farm (containing nine hundred and twenty-eight acres of arable and meadow), there is a newly-erected brick barn, equal perhaps to any in America, and for conveniences of all sorts, particularly for sheltering and feeding horses, cattle, &c., scarcely to be exceeded anywhere. A new house is now building in a central position, not far from the barn, for the overlooker; which will have two rooms, sixteen by eighteen feet, below, and one or two above, nearly of the same size. Convenient thereto is sufficient accommodation for fifty-odd negroes, old and young; but these buildings might not be thought good enough for the workmen or day-laborers of your country.

Besides these, a little without the limits of the farm, as

marked in the plan, are one or two other houses, very pleasantly situated, and which, in case this farm should be divided into two, as it formerly was, would answer well for the eastern division. The buildings thus enumerated are all that stand on the premises.

Dogue-Run Farm (six hundred and fifty acres) has a small, but new building for the overlooker; one room only below, and the same above, sixteen by twenty each; decent and comfortable for its size. It has also covering for forty-odd negroes, similar to what is mentioned on Union Farm. It has a new circular barn, now finishing, on a new construction; well calculated, it is conceived, for getting grain out of the straw more expeditiously than the usual mode of threshing. There are good sheds also, erecting, sufficient to cover thirty work-horses and oxen.

Muddy-Hole Farm (four hundred and seventy-six acres) has a house for the overlooker in size and appearance nearly like that at Dogue Run, but older; the same kind of covering for about thirty negroes, and a tolerably good barn, with stables for the work-horses.

River Farm, which is the largest of the four, and separated from the others by Little Hunting Creek, contains twelve hundred and seven acres of ploughable land, has an overlooker's house, of one large and two small rooms below, and one or two above; sufficient covering for fifty or sixty negroes, like those beforementioned; a large barn and stables, gone much to decay, but these will be replaced next year with new ones.

I have deemed it necessary to give this detail of the buildings, that a precise idea might be had of the conveniences and inconveniences of them; and I believe the recital is just in all its parts. The enclosures are precisely and accurately delineated in the plan; and the fences now are, or soon will be,

in respectable order.

I would let these four farms to four substantial farmers, of wealth and strength sufficient to cultivate them, and who would insure to me the regular payment of the rents; and I would give them leases for seven or ten years, at the rate of a Spanish milled dollar, or other money current at the time in this country equivalent thereto, for every acre of ploughable and mowable ground, within the enclosures of the respective farms, as marked in the plan; and would allow the tenants, during that period, to take fuel; and use timber from the woodland to repair the buildings, and to keep the fences in order until live fences could be substituted in place of dead ones; but in this case, no sub-tenants would be allowed.

Or, if these farms are adjudged too large, and the rents, of course, too heavy for such farmers as might incline to emigrate, I should have no unsuperable objection against dividing each into as many small ones, as a society of them, formed for the purpose, could agree upon among themselves; even if it should be by the fields as they are now arranged (which the plan would enable them to do), provided such buildings, as they would be content with, should be erected at their own expense, in the manner already mentioned. In which case, as in the former, fuel, and timber for repairs, would be allowed; but, as an inducement to parcel out my grounds into such small tenements, and to compensate me at the same time for the greater consumption of fuel and timber, and for the trouble and expense of collecting small rents, I should expect a quarter of a dollar per acre, in addition to what I have already mentioned. But in order to make these small farms more valuable to the occupants, and by way of reimbursing them for the expense of their establishment thereon, I would grant them leases for fifteen or eighteen years; although I have weighty objections to the

measure, founded on my own experience of the disadvantage it is to the lessor, in a country where lands are rising every year in value. As an instance in proof, about twenty years ago I gave leases for three lives, in land I held above the Blue Mountains, near the Shenandoah River, seventy miles from Alexandria, or any shipping-port, at a rent of one shilling per acre, no part being then cleared; and now land of similar quality in the vicinity, with very trifling improvements thereon, is renting currently at five and more shillings per acre, and even as high as eight.

My motives for letting this estate having been avowed, I will add, that the whole, except the Mansion-House Farm, or none, will be parted with, and that upon unequivocal terms; because my object is to fix my income, be it what it may, upon a solid basis in the hands of good farmers; because I am not inclined to make a medley of it; and, above all, because I could not relinquish my present course without a moral certainty of the substitute which is contemplated; for to break up these farms, remove my negroes, and dispose of the property on them upon terms short of this, would be ruinous.

Having said thus much, I am disposed to add further, that it would be in my power, and certainly it would be my inclination, upon the principle above, to accommodate the wealthy, or the weak-handed farmer, and upon reasonable terms, with draught-horses, and working mules and oxen; with cattle, sheep, and hogs; and with such implements of husbandry, if they should not incline to bring them themselves, as are in use on the farms. On the four farms there are fifty-four draught-horses, twelve working mules, and a sufficiency of oxen, broke to the yoke; the precise number I am unable this moment to ascertain, as they are comprehended in the aggregate of the black cattle. Of the latter,

there are three hundred and seventeen; of sheep, six hundred and thirty-four; of hogs, many; but, as these run pretty much at large in the woodland, which is all under fence, the number is uncertain. Many of the negroes, male and female, might be hired by the year, as laborers, if this should be preferred to the importation of that class of people; but it deserves consideration, how far the mixing of whites and blacks together is advisable; especially where the former are entirely unacquainted with the latter.

If there be those who are disposed to take these farms in their undivided state, on the terms which have been mentioned, it is an object of sufficient magnitude for them, or one of them, in behalf of the rest, to come over and investigate the premises thoroughly, that there may be nothing to reproach themselves, or me with, if (though unintentionally) there should be defects in any part of the information herein given; or, if a society of farmers are disposed to adventure, it is still more incumbent on them to send over an agent, for the purpose abovementioned; for with me the measure must be so fixed as to preclude any cavil or discussion thereafter. And it may not be *malapropos* to observe in this place, that our overlookers are generally engaged, and all the arrangements for the ensuing crops are made, before the first of September in every year. It will readily be perceived, then, that if this period is suffered to pass away, it is not to be regained until the next year. Possession might be given to the new comers at the season just mentioned, to enable them to put in their grain for the next crop; but the final relinquishment could not take place until the crops are gathered, which of Indian corn (maize) seldom happens till towards Christmas, as it must endure hard frosts before it can be safely housed.

I have endeavoured, as far as my recollection of facts

would enable me, or the documents in my possession allow, to give such information of the actual state of the farms, as to enable persons at a distance to form as distinct ideas as the nature of the thing is susceptible of, short of one's own view; and, having communicated the motives which have inclined me to a change in my system, I will announce to you the origin of them.

First, few ships, of late, have arrived from any part of Great Britain or Ireland without a number of emigrants, and some of them, by report, very respectable and full-handed farmers. A number of others, they say, are desirous of following, but are unable to obtain passages; but their coming in that manner, even if I was apprized of their arrival in time, would not answer my views, for the reason already assigned; and which, as it is the ultimatum at present, I will take the liberty of repeating, namely, that I must carry my plan into complete execution, or not attempt it; and under such auspices, too, as to leave no doubt of the exact fulfilment; and,

Secondly, because, from the number of letters which I have received myself, and, as it would seem, from respectable people, inquiring into matters of this sort, with intimations of their wishes, and even intentions of migrating to this country, I can have no doubt of succeeding. But I have made no reply to these inquiries, or, if any, in very general terms; because I did not want to engage in correspondences of this sort with persons of whom I had no knowledge, nor indeed leisure for them, if I had been so disposed.

I shall now conclude as I began, with a desire, that if you see any impropriety in making these sentiments known to that class of people, who might wish to avail themselves of the occasion, that it may not be mentioned. By a law, or by some regulation of your government, artisans, I am well aware, are laid under restraints; and for this reason, I have

studiously avoided any overtures to mechanics, although my occasions called for them. But never having heard that difficulties were thrown in the way of husbandmen by the government, is one reason for my bringing this matter to your view. A second is, that, having yourself expressed sentiments, which showed that you had cast an eye towards this country, and were not inattentive to the welfare of it, I was led to make my intentions known to you, that if you, or your friends, were disposed to avail yourselves of the knowledge, you might take prompt measures for the execution. And, thirdly, I was sure, if you had lost sight of the object yourself, I could, nevertheless, rely upon such information, as you might see fit to give me, and upon such characters, too, as you might be disposed to recommend.

Lengthy as this epistle is, I will crave your patience while I add, that it is written in too much haste, and under too great a pressure of public business, at the commencement of an important session of Congress, to be correct or properly digested. But the season of the year, and the apprehension of ice, are hurrying away the last vessel bound from this port to London. I am driven, therefore, to the alternative of making the matter known in this hasty manner, and giving a rude sketch of the farms, which is the subject of it, or to encounter delay; the first I have preferred. It can hardly be necessary to add, that I have no desire that any formal promulgation of these sentiments should be made.

To accomplish my wishes, in the manner herein expressed, would be agreeable to me; and in a way that cannot be exceptionable, would be more so. With much esteem and regard, I am, Sir, &c.

FARMS, AND THEIR CONTENTS

Union Farm.

Field, No.	I.....	120 acres	
	II.....	129	
	III.....	121	
	IV.....	120	
	V.....	110	
	VI.....	116	
	VII.....	125	
Meadow,	.....	42	
		25	67
Clover lots	.....	20	928

Dogue-Run Farm.

Field, No.	I.....	70 acres	
	II.....	74	
	III.....	74	
	IV.....	71	
	V.....	75	
	VI.....	73	
	VII.....	80	
Meadow,	.....	38	
		18	
		12	
		10	
		36	114
Clover lots,	.....	18	649

Muddy-Hole Farm

Field, No.	I.....	63 acres	
	II.....	68	
	III.....	52	
	IV.....	54	
	V.....	65	
	VI.....	80	
	VII.....	74	
Clover lots,	.....	20	476

River Farm

Field, No.	I.....	120 acres	
	II.....	120	
	III.....	125	
	IV.....	132	
	V.....	132	
	VI.....	130	
	VII.....	120	
Pasture,	.....	212	
Orchards, &c.	.....	84	
Clover lots,	.....	32	1207

Union Farm, ...	928
Dogue-Run Farm.....	649
Muddy-Hole Farm.....	476
Total of the four farms	3260

14

THOMAS JEFFERSON October 4, 1795.

We have in the following letter an interesting discussion of lucerne, clover, chiccory, buckwheat, peas, potatoes, and the winter vetch,— all from the standpoint of manures.

It is pleasant to reflect upon the fact that two such prominent statesmen as Washington and Jefferson, though differing radically on many political and social questions, had the same hobby while at home,— that of agriculture. Certainly if they found it an inspiring and restful occupation, it ought not to be beneath the dignity of the American citizen today to engage in such an avocation. We are also tempted to remark that the farmers of today are following more nearly in the foot-steps of Washington and Jefferson than are some of the politicians of today.

TO THOMAS JEFFERSON

Mount Vernon, 4 October, 1795.

Dear Sir,

Your letter of the 12th ultimo, after travelling to Philadelphia and back again, was received by me at this place the 1st instant. The letter from Madame de Chastellux to me is short, referring to the one she has written to you for particulars respecting herself and infant son. Her application to me is unquestionably misplaced, and to Congress it would certainly be unavailing; as the Chevalier de Chastellux's pretensions (on which hers must be founded) to any allowance from this country were no greater than that of any and every other officer of the French army, who served in America

the last war. To grant to one, therefore, would open a wide door to applications of a similar nature, and to consequent embarrassments. Probably the sum granted at the last session of Congress to the daughters of the Count de Grasse has given rise to this application. That it has done so in other instances, I have good reasons to believe.

I am much pleased with the account you have given of the succory. This, like all other things of the sort with me, since my absence from home, has come to nothing; for neither my overseers nor manager will attend properly to any thing but the crops they have usually cultivated; and, in spite of all I can say, if there is the smallest discretionary power allowed them, they will fill the land with Indian corn, although even to themselves there are the most obvious traces of its baneful effects. I am resolved, however, as soon as it shall be in my power to attend a little more closely to my own concerns, to make this crop yield in a degree to other grain, to pulses, and to grasses. I am beginning again with chiccory, from a handful of seed given me by Mr. Strickland, which, though flourishing at present, has no appearance of seeding this year. Lucerne has not succeeded better with me than with you; but I will give it another and a fairer trial before it is abandoned altogether. Clover, when I can dress lots well, succeeds with me to my full expectation, but not on the fields in rotation, although I have been at much cost in seeding them. This has greatly disconcerted the system of rotation on which I had decided.

I wish you may succeed in getting good seed of the winter vetch. I have often imported it, but the seed never vegetated, or in so small a proportion, as to be destroyed by weeds. I believe it would be an acquisition, if it was once introduced properly in our farms. The Albany pea, which is the same as the field pea of Europe, I have tried, and found

it will grow well; but is subject to the same bug which perforates the garden pea, and eats out the kernel. So it will happen, I fear, with the pea you propose to import. I had great expectation from a green dressing with buckwheat, as a preparatory fallow for a crop of wheat, but it has not answered my expectation yet. I ascribe this, however, more to mismanagement in the times of seeding and ploughing in, than any defect of the system. The first ought to be so ordered, in point of time, as to meet a convenient season for ploughing it in, while the plant is in its most succulent state. But this has never been done on my farms, and consequently has drawn as much from, as it has given to the earth. It has always appeared to me that there were two modes in which buckwheat might be used advantageously as a manure. One, to sow early, and, as soon as a sufficiency of seed is ripened, to stock the ground a second time, to turn the whole in, and when the succeeding growth is getting in full bloom, to turn that in also, before the seed begins to ripen; and, when the fermentation and putrifaction ceases, to sow the ground in that state, and plough in the wheat. The other mode is, to sow the buckwheat so late, as that it shall be generally about a foot high at the usual seeding of wheat; then turn it in, and sow thereon immediately, as on a clover lay, harrowing in the seed lightly to avoid disturbing the buried buckwheat. I have never tried the latter method, but see no reason against its succeeding. The other, as I observed above, I have prosecuted, but the buckwheat has always stood too long, and consequently had got too dry and sticky to answer the end of a succulent plant.

But of all the improving and ameliorating crops, none in my opinion is equal to potatoes, on stiff and hard bound land, as mine is. I am satisfied, from a variety of instances, that on such land a crop of potatoes is equal to an ordinary

dressing. In no instance have I failed of good wheat, oats, or clover, that followed potatoes; and I conceive they give the soil a darker hue. I shall thank you for the result of your proposed experiments relative to the winter vetch and pea, when they are made.

I am sorry to hear of the depredations committed by the weevil in your parts; it is a great calamity at all times, and this year, when the demand for wheat is so great, and the price so high, must be a mortifying one to the farmer. The rains have been very general, and more abundant since the 1st of August, than ever happened in a summer within the memory of man. Scarcely a mill-dam, or bridge, between this and Philadelphia, was able to resist them, and some were carried off a second and third time.

Mrs. Washington is thankful for your kind remembrance of her, and unites with me in best wishes for you. With very great esteem and regard, I am, dear Sir, &c.

15

JAMES McHENRY May 29, 1797.

While this letter does not throw much light upon Washington as a farmer, yet it does give us a delightful glimpse of his home life after a sojourn of eight years in Philadelphia as President. It contains a concise description of how Washington at 65 spends a typical day. Incidentally, it leads us to the comforting thought that in one respect, at least, he is human; for in regard to letter writing he says: " but when the lights are brought, I feel tired and disinclined to engage in this work, conceiving that the next night will do just as well."

TO JAMES McHENRY

Mount Vernon, 29 May, 1797.

Dear Sir,

I am indebted to you for several unacknowledged letters; but never mind that; go on as if you had them. You are at the source of information, and can find many things to relate; while I have nothing to say, that could either inform or amuse a Secretary at War in Philadelphia.

I might tell him, that I begin my diurnal course with the sun; that, if my hirelings are not in their places at that time I send them messages expressive of my sorrow for their indisposition; that, having put these wheels in motion, I examine the state of things further; and the more they are probed, the deeper I find the wounds are which my buildings have sustained by an absence and neglect of eight years; by the time I have accomplished these matters, breakfast (a little after seven o'clock, about the time I presume you are

taking leave of Mrs. McHenry), is ready; that, this being over, I mount my horse and ride round my farms, which employs me until it is time to dress for dinner, at which I rarely miss seeing strange faces, come as they say out of respect for me. Pray, would not the word curiosity answer as well? And how different this from having a few social friends at a cheerful board! The usual time of sitting at table, a walk, and tea, brings me within the dawn of candle light; previous to which, if not prevented by company, I resolve, that, as soon as the glimmering taper supplies the place of the great luminary, I will retire to my writing-table and acknowledge the letters I have received; but when the lights are brought, I feel tired and disinclined to engage in this work, conceiving that the next night will do as well. The next comes, and with it the same causes for postponement, and effect.

This will account for your letter remaining so long unacknowledged; and having given you the history of a day, it will serve for a year, and I am persuaded you will not require a second edition of it. But it may strike you that in this detail no mention is made of any portion of time allotted for reading. The remark would be just, for I have not looked into a book since I came home; nor shall I be able to do it until I have discharged my workmen, probably not before the nights grow longer, when possibly I may be looking in Doomsday-Book. At present I shall only add, that I am always and affectionately yours.

16

WILLIAM STRICKLAND July 15, 1797.

An able discussion of the Englishman's criticism of agricultural methods followed in the United States is contained in this letter. Washington deplores the wasteful use of land, and the expensive style of fencing then in vogue in this country.

There are also some interesting remarks upon the methods of planting wheat, and growing clover with orchard grass.

TO WILLIAM STRICKLAND, IN ENGLAND

Mount Vernon, 15 July, 1797.

Sir,

I have been honored with yours of the 30th of May and 5th of September of last year. As the first was in part an answer to a letter I took the liberty of writing to you, and the latter arrived in the middle of an important session of Congress, which became more interesting as it drew more near to its close, inasmuch as it was limited by the constitution to the 3d of March, and on that day was to give political dissolution to the House of Representatives, a third part of the Senate, and the Chief Magistrate of the United States, I postponed, from the pressure of business occasioned thereby, the acknowledgment of all private letters, which did not require immediate answers, until I should be seated under my own vine and fig-tree, where I supposed I should have abundant leisure to discharge all my epistolary obligations.

In this, however, I have hitherto found myself mistaken; for at no period have I been more closely employed in repairing the ravages of an eight years' absence. Engaging workmen of different sorts, providing and looking after them, together with the necessary attention to my farms, have occupied all my time since I have been at home.

I was far from entertaining sanguine hopes of success in my attempt to procure tenants from Great Britain; but, being desirous of rendering the evening of my life as tranquil and free from care as the nature of things would admit, I was willing to make the experiment.

Your observation, with respect to occupiers and proprietors of land has great weight, and, being congenial with my own ideas on the subject, was one reason, though I did not believe it would be so considered, why I offered my farms to be let. Instances have occurred, and do occur daily, to prove that capitalists from Europe have injured themselves by precipitate purchases of free-hold estates, immediately upon their arrival in this country, while others have lessened their means in exploring States and places in search of locations; whereas, if on advantageous terms they could have been first seated as tenants, they would have had time and opportunities to become holders of land, and for making advantageous purchases. But it is so natural for man to wish to be the absolute lord and master of what he holds in occupancy, that his true interest is often made to yield to a false ambition. Among these, the emigrants from the New England States may be classed, and this will account, in part, for their migration to the westward. Conviction of these things having left little hope of obtaining such tenants as would answer my purposes, I have had it in contemplation, ever since I returned home, to turn my farms to grazing principally, as fast as I can cover the fields sufficiently with grass. Labor, and of

course expense, will be considerably diminished by this change, the net profit as great, and my attention less divided, whilst the fields will be improving.

Your strictures on the agriculture of this country are but too just. It is indeed wretched; but a leading, if not the primary, cause of its being so is, that, instead of improving a little ground well, we attempt much and do it ill. A half, a third, or even a fourth of what we mangle, well wrought and properly dressed, would produce more than the whole under our system of management; yet such is the force of habit, that we cannot depart from it. The consequence of which is, that we ruin the lands that are already cleared, and either cut down more wood, if we have it, or emigrate into the Western country. I have endeavoured, both in a public and private character, to encourage the establishment of boards of agriculture in this country, but hitherto in vain; and what is still more extraordinary, and scarcely to be believed, I have endeavoured ineffectually to discard the pernicious practice just mentioned from my own estate; but, in my absence, pretexts of one kind or another have always been paramount to orders. Since the first establishment of the National Board of Agriculture in Great Britain, I have considered it as one of the most valuable institutions of modern times; and, conducted with so much ability and zeal, as it appears to be under the auspices of Sir John Sinclair, it must be productive of great advantages to the nation, and to mankind in general.

My system of agriculture is what you have described, and I am persuaded, were I to proceed on a large scale, would be improved by the alteration you have proposed. At the same time I must observe, that I have not found oats so great an exhauster, as they are represented to be; but in my system they follow wheat too closely to be proper, and the

rotation will undergo a change in this, and perhaps in some other respects.

The vetches of Europe have not succeeded with me; our frosts in winter, and droughts in summer, are too severe for them. How far the mountain or wild pea would answer as a substitute, by cultivation, is difficult to decide, because I believe no trial has been made of it, and because its spontaneous growth is in rich lands only. That it is nutritious in a great degree, in its wild state, admits of no doubt.

Spring barley, such as we grow in this country, has thriven no better with me than vetches. The result of an experiment, made with a little of the true sort, will be interesting. The field peas of England (different kinds) I have more than once tried, but not with encouragement to proceed; for, among other discouragements, they are perforated by a bug, which eats out the kernel. From the cultivation of the common black-eye peas, I have more hope, and am trying them this year, both as a crop, and for ploughing in as a manure; but the severe drought, under which we labor at present, may render the experiment inconclusive. It has, in a manner, destroyed my oats, and threatens to destroy my Indian corn.

The practice of ploughing in buckwheat twice in the season as a fertilizer is not new to me. It is what I have practised, or, I ought rather to have said, attempted to practise, the last two or three years; but, like most things else in my absence, it has been so badly executed, that is, the turning in of the plants has been so ill timed, as to give no result. I am not discouraged, however, by these failures; for, if pulverizing the soil, by fallowing and turning in vegetable substances for manure, is a proper preparation for the crop that is to follow, there can be no question, that a double portion of the latter, without an increase of the ploughing, must be highly beneficial. I am in the act of making an-

other experiment of this sort, and shall myself attend to the operation, which, however, may again prove abortive, from the cause I have mentioned, namely, the drought.

The lightness of our oats is attributed, more than it ought to be, to the unfitness of the climate of the middle States. That this may be the case in part, and nearer the seaboard in a greater degree, I will not controvert; but it is a well-known fact, that no country produces better oats than those that grow on the Allegany Mountains, immediately westward of us. I have heard it affirmed, that they weigh upwards of fifty pounds the Winchester bushel. This may be occasioned by the fertility of the soil, and the attraction of moisture by the mountains; but another reason, and a powerful one too, may be assigned for the inferiority of ours, namely, that we are not choice in our seeds, and do not change them as we ought.

The seeds you were so obliging as to give me shared the same fate that Colonel Wadsworth's did, and as I believe seeds from England generally will do, if they are put into the hold of the vessel. For this reason, I always made it a point, whilst I was in the habit of importing seeds, to request my merchants and the masters of vessels, by which they were sent, to keep them from the heat thereof.

You make a distinction, and no doubt a just one, between what in England is called barley, and *big*, or *bere*. If there be none of the true barley in this country, it is not for us, without experience, to pronounce upon the growth of it; and therefore, as noticed in a former part of this letter, it might be interesting to ascertain, whether our climate and soil would produce it to advantage. No doubt, as your observations while you were in the United States appear to have been extensive and accurate, it did not escape you, that both winter and spring barley are cultivated among us. The latter is considered as an uncertain crop south of New York, and

I have found it so on my farms. Of the former I have not made sufficient trial to hazard an opinion of success. About Philadelphia it succeeds well.

The Eastern Shore bean, as it is denominated here, has obtained a higher reputation than it deserves; and, like most things unnaturally puffed, sinks into disrepute. Ten or more years ago, led away by exaggerated accounts of its fertilizing quality, I was induced to give a very high price for some of the seed; and, attending to the growth in all its stages, I found that my own fields, which had been uncultivated for two or three years, abounded with the same plants, without perceiving any of those advantages, which had been attributed to them.

I am not surprised that our mode of fencing should be disgusting to a European eye. Happy would it have been for us, if it had appeared so in our own eyes; for no sort of fencing is more expensive or wasteful of timber. I have been endeavouring for years to substitute live fences in place of them; but my long absence from home has in this, as in every thing else, frustrated all my plans, that required time and particular attention to effect them. I shall now, although it is too late in the day for me to see the result, begin in good earnest to ditch and hedge; the latter I am attempting with various things, but believe none will be found better than cedar, although I have several kinds of white thorn growing spontaneously on my own grounds.

Rollers I have been in the constant use of for many years, in the way you mention, and find considerable benefit in passing them over my winter grain in the spring, as soon as the ground will admit a hoof on it. I use them also on spring grain and grass seeds, after sowing and sometimes before, to reduce the clods when the ground is rough. My clover generally is sown with spring grain; but, where the

ground is not too stiff and binding, it succeeds very well on wheat. Sown on a light snow in February, or the beginning of March, it sinks with the snow and takes good root. And orchard grass, of all others, is in my opinion the best mixture with clover; it blooms precisely at the same time, rises quick again after cutting, stands thick, yields well, and both horses and cattle are fond of it, green or in hay. Alone, unless it is sown very thick, it is apt to form tussocks. If of this, or any other seeds I can procure, you should be in want, I shall have great pleasure in furnishing them.

I should have been very happy in forming an acquaintance with the gentleman, of whom you speak so highly (Mr. Smith of Ross Hall); but, unless he has been introduced on a public day and among strangers, unaccompanied by any expression to catch the attention, I have not yet had the pleasure to see him; nor have I heard more of Mr. Parsons, than what is mentioned of him in your letter. Your sentiments of these gentlemen, or others, on giving letters of introduction to any of your acquaintance, require no apology, as I shall always be happy in showing civility to whomsoever you may recommend.

For the detailed account of your observations on the husbandry of these United States, and your reflections thereon, I feel myself much obliged, and shall at all times be thankful for any suggestions on agricultural subjects, which you may find leisure and inclination to favor me with, as the remainder of my life, which, in the common course of things, now in my sixty-sixth year, cannot be of long continuance, will be devoted wholly to rural and agricultural pursuits.

For the trouble you took in going to Hull, to see if any of the emigrants, who were on the point of sailing from thence to America, would answer my purposes as tenants; and

for your very kind and friendly offer of rendering me services, I pray you to accept my sincere thanks, and an assurance of the esteem and regard with which I am, Sir, &c.

17

JAMES ANDERSON December 10, 1799.

Washington makes some excellent and very pertinent remarks in the following letter to his manager upon the value of system in general, and upon its application to farm management in particular. Standing out in contrast with some of the loose farming methods of today, are his comments upon economy, and the care of tools and machinery on a farm.

He also makes extensive plans for his farms, and gives detailed directions for their execution as far ahead as 1803.

Especial importance attaches to this letter of directions because it was written only four days before his death.

TO JAMES ANDERSON, MANAGER OF THE FARMS

Mount Vernon, 10 December, 1799.

Mr. Anderson,

From the various plans suggested by you at different times for cropping the farms, which I propose to retain in my own hands, in the year 1800, and with a reduced force of the laborers on them, and the operations necessary to carry them into effect; comparing these with the best reflections I have been able to make on the subject; and considering, moreover, the exhausted state of my arable fields, and how important it is to adopt some system by which the evil may be arrested, and the fields in some measure restored by a rotation of crops, which will not press hard upon them, while sufficient intervals are allowed for improvement; I have digested the following instructions for my manager, and for the government of my overseers, and request that they may be most

strictly and *pointedly* attended to and executed, as far as the measures therein required will admit.

A *system* closely pursued, although it may not in all its parts be the best that could be devised, is attended with innumerable advantages. The conductor of the business, in this case, can never be in any dilemma in his proceedings. The overseers, and even the laborers, know what is to be done, and what they are capable of doing, in ordinary seasons. The force to be employed may be in due proportion to the work which is to be performed, and a reasonable and tolerably accurate estimate may be made of the product. But when no plan is fixed, when directions flow from day to day, the business becomes a mere chaos, frequently shifting, and sometimes at a stand, for want of knowing what to do, or the manner of doing it. Thus is occasioned a waste of time, which is of more importance, than is generally imagined.

Nothing can so effectually obviate the evil, as an established *system*, made known to all who are actors in it, that all may be enabled thereby to do their parts to advantage. This gives ease to the principal conductor of the business, and is more satisfactory to the persons who immediately overlook it, less harassing to the laborers, as well as more beneficial to the employer.

Under this view of the subject, the principal service, which you can render me, is to explain to the overseers (who will be furnished with duplicates) the plan, in all its parts, which is hereafter detailed; to hear their ideas with respect to the order in which the different sorts of work therein pointed out shall succeed each other, for the purpose of carrying it on to the best advantage; to correct any erroneous projects they may be disposed to adopt; and then to see, that they adhere strictly to whatever may be resolved on, and that they are always (except when otherwise permitted) on their

farms, and with their people. The work, under such circumstances, will go on smoothly; and, that the stock may be well fed, littered, and taken care of according to the directions, it will be necessary to inspect the conduct of the overseers in this particular, and those also whose immediate business it is to attend upon them, with a watchful eye; otherwise, and generally in severe weather, when attention and care are most needed, they will be most neglected.

Economy in all things is as commendable in the manager, as it is beneficial and desirable to the employer; and, on a farm, it shows itself in nothing more evidently, or more essentially, than in not suffering the provender to be wasted, but, on the contrary, in taking care that every atom of it be used to the best advantage; and, likewise, in not permitting the ploughs, harness, and other implements of husbandry, and the gears belonging to them, to be unnecessarily exposed, trodden under foot, run over by carts, and abused in other respects. More good is derived from attending to the minutiae of a farm, than strikes people at first view; and examining the farm-yard fences, and looking into the fields to see that nothing is there but what is allowed to be there, is oftentimes the means of producing more good, or at least of avoiding more evil, than can be accomplished by riding from one working party or overseer to another. I have mentioned these things not only because they have occurred to me, but because, although apparently trifles, they prove far otherwise in the result.

The account for the present quarter must be made final, as an entire new scene will take place afterwards. In doing this, advertise in the Alexandria paper for the claims of every kind and nature whatsoever against me, to be brought to you by the 1st of January, that I may wipe them off, and begin on a fresh score. All balances in my favor must either be

received, or reduced to specialties, that there may be no disputes hereafter.

I am, Sir, &c.

RIVER FARM

DIRECTIONS CONCERNING CROPS FOR THE RIVER FARM, AND OPERATIONS THEREON, FOR THE YEAR 1800

Field No. 1.— Is now partly in wheat; part is to be sown with oats; another part may be sown with pease, broad cast; part is in meadow, and will remain so; the most broken, washed, and indifferent part is to remain uncultivated, but to be harrowed and smoothed in the spring, and the worst portions, if practicable, to be covered with litter, straw, weeds, or any kind of vegetable rubbish, to prevent them from running into gullies.

No. 2.— One fourth is to be in corn, and to be sown with wheat; another fourth in buckwheat and pease, half of it in the one, and half in the other, sown in April, to be ploughed in as a green dressing, and by actual experiment to ascertain which is best. The whole of this fourth is to be sown with wheat also; another fourth part is to be naked fallow for wheat; and the other and last quarter to be appropriated for pumpkins, cymlins, turnips, Yateman pease, in hills, and such other things of this kind as may be required; and to be sown likewise with rye, after they are taken off, for seed.

No. 3.— Is now in wheat, to be harvested in the year 1800; the stubble of which, immediately after harvest, is to be ploughed in and sown thin with rye; and such parts thereof as are low, or produce a luxuriant growth of grain, are to have grass-seeds sprinkled over them. The whole for sheep to run on in the day (but housed at night) during the winter and spring months. If it should be found expedient, part

thereof in the spring might be reserved for the purpose of seed.

No. 4.— Will be in corn, and is to be sown in the autumn of that year with wheat, to be harvested in 1801; and to be treated in all respects as has been directed for No. 3, the preceding year. It is to be manured as much as the means will permit, with such aids as can be produced during the present winter and ensuing spring.

Nos. 5, 6, 7, and 8.— Are to remain as they are, but nothing suffered to run upon them; as ground will be allotted for the sole purpose of pasturage, and invariably used as such.

Clover Lots

No. 1.— Counting from the Spring Branch is to be planted in potatoes.

No. 2.— That part thereof which is now in turnips is to be sown with oats and clover; the other part, being now in clover, is to remain so until it comes into potatoes by rotation.

No. 3.— Is also in clover at present, and is to remain so, as just mentioned, for No. 2.

No. 4.— Is partly in clover and partly in timothy, and so to be, until its turn for potatoes.

The rotation for these lots invariably is to be, 1. Potatoes, highly manured; 2. Oats, and clover sown therewith; 3. Clover; 4. Clover. Then to begin again with potatoes, and proceed as before. The present clover lots must be plastered.

All green sward, rough ground, or that which is heavily covered with weeds, bottle-brush grass, and such things as being turned in will ferment, putrefy, and meliorate the soil, should in autumn be ploughed in, and at such times in winter as it can be done while the ground is dry, and in condition for it.

Pasture Grounds

The large lot adjoining the negro houses and orchard is to have oats sown on the potato and pumpkin ground; with which, and on the rye also in that lot, and on the melon part, orchard grass-seeds are to be sown; and thereafter to be kept as a standing calf pasture, and for ewes (which may require extra care) at yeaning, or after they have yeaned.

The other large lot, northeast of the barn lane, is to be appropriated *always* as a pasture for the milch cows, and probably working oxen during the summer season.

The woodland, and the old field commonly called Johnston's, are designed for *common* pasture, and to be so applied always. To which, if it should be found inadequate to the stock of the farm, field No. 8, and the woodland therein, may be added.

Meadows

Those already established and in train must continue, and the next to be added to them is the arms of the creek, which runs up to the spring-house, and forks, both prongs of which must be grubbed up, and wrought upon at every convenient moment when the weather will permit, down to the line of the ditch, which encloses the lots for clover, &c.

And, as the fields come into cultivation, or as labor can be spared from other work, and circumstances will permit, the heads of all the inlets in them must be reclaimed, and laid to grass, whether they be large or small. Forasmuch as nothing will run on, or can trespass upon, or injure the grass, no fencing is required.

Mud for Compost

The season is now too far advanced, and too cold, to be engaged in a work, that will expose the hands to wet; but it is of such essential importance, that it should be set about seriously and with spirit next year, for the summer's sun and the winter's frost to prepare it for the corn and other crops of 1801. All the hands of the farm, not indispensably engaged in the crops, should, so soon as corn-planting is completed in the spring, be uninterruptedly employed in raising mud from the *pocosons*,[1] and from the bed of the creek, into the scow; and the carts, so soon as the manure for the corn and potatoes in 1800 is carried out, are to be incessantly drawing it to the compost heaps in the fields, which are to be manured by it. What number of hands can be set apart for this all-important work, remains to be considered and decided upon.

Penning Cattle and Folding Sheep

On the fields intended for wheat, from the first of May, when the former should be turned out to pasture, until the first of November, when they ought to be housed, must be practised invariably; and to do it with regularity and propriety, the pen for the former, and the fold for the latter, should be proportioned to the number of each kind of stock; and both these to as much ground as they will manure sufficiently in the space of a week for wheat, beyond which they are not to remain in a place, except on the poorest spots; and even these had better be aided by litter or something else, than to depart from an established rule, of removing the pens on a certain day in each week. For in this, as in

1 "*Pocoson* is a word used in Virginia to denote a small swamp or marshy place."— Sparks: "Writings of Washington," Vol. XII, p. 363.

every thing else, system is essential to carry on business well, and with ease.

Feeding

The work-horses and mules are always to be in their stalls, and all littered and cleaned, when they are out of harness; and they are to be plenteously fed with cut straw, and as much chopped grain, meal, or bran, with a little salt mixed therewith, as will keep them *always* in good condition for work; seeing also, that they are watered as regularly as they are fed; this is their winter feed. For spring, summer, and autumn, it is expected, that soiling them on green food, first with rye, then with lucerne, and next with clover, with very little grain, will enable them to perform their work.

The oxen and other horned cattle, are to be housed from the first of November until the first of May; and to be fed as well as the means on the farm will admit. The first (oxen) must always be kept in good condition, housed in the stalls designed for them; and the cows (so many of them as can find places), on the opposite side. The rest, with the other cattle, must be in the newly-erected sheds; and the whole carefully watered every day; the ice, in frozen weather, being broken, so as to admit them to clean water.

With respect to the sheep, they must receive the best protection that can be given them this winter; against the next, I hope they will be better provided for.

And with regard to the hogs, the plan must be, to raise a given number of good ones, instead of an indiscriminate number of indifferent ones, half of which die or are stolen before the period arrives for putting them up as porkers. To accomplish this, a sufficient number of the best sows should be appropriated to the purpose; and so many pigs raised from them as will insure the quantity of pork, which the

farm ought to furnish.

Whether it will be most advisable to restrain these hogs from running at large or not, can be decided with more precision after the result of those now in close pens is better known.

The exact quantity of corn used by those which are now in pens, should be ascertained and regularly reported, in order to learn the result.

Stables and Farm Pens

These ought to be kept well littered, and the stalls clean; as well for the comfort of the creatures that are contained in them, as for the purpose of manure; but, as straw cannot be afforded for this purpose, leaves and such spoiled straw or weeds as will not do for food, must serve for the stables; and leaves and cornstalks are all that can be applied to the pens. To do this work effectually, let the cornstalks be cut down by a few careful people with sharp hoes, so low as never to be in the way of scythes at harvest; and, whenever the wheat will admit carts to run on it without injury, let them be brought off and stacked near the farm pens. In like manner, let the people, with their blankets, go every evening, or as often as occasion may require, to the nearest wood, and fill them with leaves for the purposes above mentioned; bottoming the beds with cornstalks, and covering them thick with leaves. A measure of this sort will be, if strictly attended to, and punctually performed, of great utility in every point of view. It will save food, make the cattle lie warm and comfortable, and produce much manure. The hogs also in pens must be well bedded in leaves.

Fencing

As stock of no kind, according to this plan, will be suffered to run on the arable fields or clover lots (except sheep in the day on the rye fields, as has been mentioned before), partition fences between the fields, until they can be raised of quicks, may be dispensed with. But it is of great importance, that all the exterior or outer fences should be substantially good; and those also, which divide the common or woodland pasture from the fields and clover lots, are to be very respectable.

To accomplish this desirable object in as short a time as possible, and with the smallest expense of timber, the post-and-rail fence which runs from the negro quarters, or rather from the corner of the lot enclosing them, up to the division between fields Nos. 7 and 8, may be placed on the bank (which must be raised higher) running to the creek. In like manner, the fence from the gate, which opens into No. 2, quite down to the river, along the Cedar Hedge-row, as also those rails which are between Nos. 1 and 2, and between No. 2 and No. 3, may all be taken away, and applied to the outer fences, and the fences of the lanes from the barn into the woodland pasture, and from the former (the barn) into No. 5; for the fences of all these lanes must be good, as the stock must have a free passage along them at all times, from the barn-yard to the woodland pasture.

All the fencing from the last-mentioned place (between me and Mr. Mason), until it joins Mr. Lear's farm, and thence with the line between him and me, until it comes to the river, will require to be substantially good; at its termination on the river, dependence must be placed in a water fence; for if made of common rails, they would be carried off by boatmen for firewood. The fences separating fields No. 1 and No. 8

from the woodland pasture must also be made good, to prevent depredations on the fields by my own stock.

Crops, &c. for 1801 [at the River Farm]

No. 5 is to be in corn, and to be invariably in that article. It is to be planted (if drills are thought to be ineligible until the ground is much improved) in rows six feet by four, or seven feet by three and a half, the wide part open to the south. These hills are to be manured as highly as the means will admit; and the corn planted every year in the middle of the rows of the preceding year; by doing which, and mixing the manure and earth by the plough and other workings, the whole in time will be enriched.

The washed and gullied parts of this field should be levelled, and as much improved as possible, or left uncultivated. Although it is more broken than some of the other fields, it has its advantages. 1st, It has several inlets extending into it, with easy ascents therefrom; secondly, it is convenient to the mud in the bed of the creek, whensoever (by means of the scow) resort is had thereto, and has good landing-places; and, thirdly, it is as near to the barn as any other, when a bridge and causeway shall be made over the Spring Branch. To these may be added, that it is more remote from squirrels than any other.

No. 6 and No. 7, or such part thereof as is not so much washed or gullied, as to render ploughing ineligible, are to be fallowed for wheat. One of which, if both cannot, is to have the stubble ploughed in and sown with rye, and the low and strong parts to have timothy or orchard grass seeds, perhaps both, in different places, sprinkled over them, for the purpose of raising seed. On the rye pasture the sheep are to be fed in winter and spring, and treated in all respects as No. 3 in 1800.

In the years 1802, 1803, *and so on*

The corn ground remaining the same, two fields, in the following numbers, will be fallowed for wheat, and treated in all respects as mentioned above; and if pumpkins, cymlins, turnips, pease, and such like growth, are found beneficial to the land, or useful and profitable to the stock, ground may readily be found for them.

These are the great outlines of a plan, and the operations of it, for the next year, and for years to come, for the *River Farm.* To carry it into effect advantageously, it becomes the indispensable duty of him, who is employed to overlook and conduct the operations, to take a prospective and comprehensive view of the whole business, which is laid before him, that the several parts thereof may be so ordered and arranged, as that one sort of work may follow another sort in proper succession, and without loss of labor or of time; for nothing is a greater waste of the latter, and consequently of the former (time producing labor, and labor money), than shifting from one thing to another before it is finished, as if chance or the impulse of the moment, not judgment and foresight, directed the measure. It will be acknowledged, that weather and other circumstances may at times interrupt a regular course of proceedings; but, if a plan is well digested beforehand, they cannot interfere long, with a man who is acquainted with the nature of the business, and the crops he is to attend to.

Every attentive and discerning person, who has the whole business of the year laid before him, and is acquainted with the nature of the work, can be at no loss to lay it out to advantage. There are many sorts of *in-doors* work, which can be executed in hail, rain, or snow, as well as in sunshine; and if they are set about in fair weather (unless there be a

necessity for it), there will be nothing to do in foul weather; the people therefore must be idle. The man of prudence and foresight will always keep these things in view, and order his work accordingly, so as to suffer no waste of time, or idleness. These same observations apply with equal force to frozen ground, and to ground too wet to work in, or which, if worked, will be injured thereby.

These observations might be spun to a greater length, but they are sufficient to produce reflection; and reflection, with industry and proper attention, will produce the end that is to be wished.

There is one thing, however, I cannot forbear to add, and in strong terms; it is, that whenever I order a thing to be done, it must be done, or a reason given at the time, or as soon as the impracticability is discovered, why it cannot be done, which will produce a countermand or change. But it is not for the person receiving the order to suspend, or dispense with, its execution; and, after it has been supposed to have gone into effect, to tell me, that nothing has been done in it, that it *will* be done, or that it could not be done; either of these is unpleasant and disagreeable to me, having been all my life accustomed to more regularity and punctuality. Nothing but system and method are required to accomplish any reasonable requests.

UNION FARM

DIRECTIONS CONCERNING CROPS FOR THE UNION FARM, AND OPERATIONS THEREON, FOR THE YEAR 1800

Field No. 1.— Is now sown with wheat, to be harvested in 1800; the stubble of which is to be immediately ploughed in, and rye sowed thereon for a sheep pasture. Grass-seeds must be sown therewith, on such parts as will yield grass

for seed, to supply my own wants, and the market, so far as it can be spared. This field, after the rye has been eaten off by the sheep, is to be kept from the stock of all kinds, and nothing suffered to run thereon, until it comes, in course, to be cultivated, in the regular routine of crops.

No. 2.— Will be in corn, and, although but an indifferent field, washed in some places, gullied in others, and rich in none, is, all things considered, best to be appropriated constantly for this crop. First, and specially, because it is most contiguous to the barn, and the corn therein more easily secured and attended to. Secondly, because it is as handy to the mud from the *pocoson* and the bed of the creek as any other, to mix in a compost, and more convenient to the manure from the farm-yard and stables. Thirdly, because it is entirely out of the reach of squirrels. And, fourthly, because it is hoped and expected, from the manner of treating it, that it will be so much amended as to become more and more productive every year, and the impoverished places, if not restored to some degree of fertility, prevented from getting worse, and becoming such eye-sores as they now are.

The corn will be planted in rows, six feet by four, or seven by three and a half; the wide part open to the south. It must be as highly manured in the hill as the means on the farm (respect being had to other species of crops) will admit. The rows of the succeeding year will be in the middle of the last, and alternately shifted; by which means, and the workings the field will yearly receive, the whole will be enriched, and, it is hoped, restored.

No. 3.— As No. 2 is to be appropriated as a standing field for corn, and of course cannot be sown with wheat in the autumn of 1800, this field, that is, No. 3, ought, if it be practicable, to be fallowed, and sown with that article; otherwise the farm will produce no wheat the following year, and the

stock must suffer for want of the straw; and it is to be treated in every respect as has been directed for No. 1, that is, the stubble to be ploughed in immediately after harvest, and rye sowed thereon, with grass-seeds where the soil is strong enough to rear them, for the purpose of producing seed again.

No. 4.— The part thereof which lies northeast of the meadow, commonly called Manley's Field, is to remain well enclosed, and no stock suffered to run thereon until it comes in rotation to be fallowed for wheat in 1801. The other part of the same No. 4 is to be equally well enclosed, and kept from stock; and, except the part along Muddy-Hole Branch (which is to be added to No. 5, in order to supply the deficiency occasioned by taking the clover lot No. 2 from it), is to be planted with peach trees, at sixteen feet and a half asunder, except so much of it as lies flat, by the gate on the Mill road, which, if properly prepared, it is supposed would bring grass, and on that account is to be planted at double that distance, namely, at thirty-three feet apart. What is here meant by enclosing this part of No. 4 well, is, that the outer fence shall be secure, for it will remain as now undivided from No. 3, otherwise than by the Branch.

No. 5.— Is also to be kept for stock; and, when it comes in course to be fallowed for wheat, is to have the addition above mentioned, along the Branch, added thereto, and sown in this article.

No. 6.— Will receive such an addition to its size from No. 7, as will make it, exclusive of the lot for clover, lucerne, &c., of equal size thereto. Part of this field is now sown with, and will be in wheat in 1800. Part will be in oats, particularly where the pease grew; and all that part of it, and No. 7 also, which lies low, from the meadow fence by the overseer's house, quite up to the head springs of the Branch, reclaimed in the

spring, is to be planted with rare-ripe corn; and in the fall to be treated in every respect as the great meadow at this farm (but at an earlier period) has been this year. For, although I am not sanguine enough to expect, that it will make good mowing meadow, I shall be much disappointed if it does not produce grass, yielding a good deal of seed, which, until the fields come into cultivation, in regular rotation, and afterwards, if it answer expectation, will be an annual profit without any other labor than gathering it. The other part of No. 6, which will be taken from No. 7, lying south of this low ground between it and No. 1, might, if it does not involve too much ploughing, be put in corn also; but this is a measure, which will require consideration, and probably must depend upon circumstances. The poor and washed parts of No. 6 must remain uncultivated; but ought, if it be practicable, to be levelled, harrowed, and such trash of some kind to be thrown thereon, as will keep them from growing worse.

No. 7.— Some parts of this fields may be sown with buckwheat, in no great quantity, and a part may be planted with the Yateman pease, in hills, both for a crop; some of the other kind of pease may be sown broad-cast, and mowed at a proper season for the stock. The rest of the ground, by lying uncultivated, and nothing running thereon, will be increasing in strength while idle.

Clover Lots

No. 1.— Next the overseer's house, same side of the lane (excepting the ground now in and designed for lucerne, south of the slash by the barn, and two acres where the turnips grew, or at the other end for experiments) is to be in oats, and to be sown with clover seed.

No. 2.— Opposite thereto, and at present part of No. 5, is to be well manured and planted with potatoes; whether in

hills, or drills, may be considered.

No. 3.— May receive pumpkins, cymlins, turnips, and melons, there being no sown grass remaining on it; and the manure for, and shade occasioned by, these vines, together with the working the lot will get, will be of service instead of a detriment to the potato crop which will follow.

No. 4.— Is to remain in clover, until, by rotation, it comes into potatoes again.

The rotation for these lots is uniformly to be, 1. Potatoes, highly manured; 2. oats, and clover sown therewith; 3. clover; 4. clover. Then to begin again with potatoes, and proceed as before.

The present clover lots must be plastered.

All green sward, rough ground, or that which is heavily covered with weeds, bottle-brush grass, and such things as by being turned in will ferment, putrefy, and ameliorate the soil, should in the autumn be ploughed in, and at such time in winter as it can be done while the ground is dry and in condition for working.

Pasture Ground

As stock of all sorts, except sheep upon the rye, are to be excluded from the arable fields and clover lots, resort must be had to the woodland and unreclaimed swamps therein for pasture for them; and this will be provided by a fence extending from the southwest corner of Muddy-Hole field No. 2, to the southeast corner of Dogue-Run field No. 4, leaving all south of it for this farm; as the north part will be for Muddy-Hole farm; and, as it will be for the mutual benefit of both farms, the fence must be erected at the joint expense of both.

Fencing

The one just mentioned must be completed in the course of the winter; and every possible exertion must be made to

strengthen, and render substantially good, the whole of the exterior or outer fence of the farm. To do this, and to avoid all unnecessary consumption of timber, the partition fence between the fields No. 6 and No. 7, as it now stands, quite up to the woods, and thence to the fence leading from the Ferry to the Mill road from the Mansion-House, may be taken away and applied to that fence, and to the trunnel-fence on the Mill road, where they unite, until it comes to the meadow fence at the bridge; leaving the fields No. 6 and No. 7, and the woodland adjoining, under one enclosure. In like manner, the fences dividing No. 1 from No. 2, and No. 2 from No. 3, may be used for a fence around the creek, until it unites with that opposite to the Mill house; without which neither of those fields will be secure, as hogs have been taught, or of themselves have learnt, to cross the creek in pursuit of food. For strengthening effectually the fence from the plank bridge by the Barn lane to the Branch opposite to the Mill house, new rails must be got in the nearest wood between the Mill road and the road leading to the Gum Spring.

The west fence of No. 5 must, next year, or as soon as it can be accomplished, be removed across the Branch, and placed in a line with the new ditch fence of the lower meadow, until it comes in range with the south line of the said field; and, until a fence is run from the end thereof to the nearest part of the outer fence opposite to the Mill, and a second gate established thereat, or until that intercourse between the Barn and Mill is effectually barred, which would be the cheapest and most convenient mode, there would be no security for any crop growing in fields Nos. 1, 2, and 3, as leaving the gate by the Mill run open only five minutes might deluge the whole with the hogs at that place; and they might be there a night or two, perhaps more, before they were discovered, and do irreparable damage. Indeed, the latter

mode has so much the advantage of the former, especially as my intercourse with the Mill will in a great measure cease, that I see no cause to hesitate a moment in adopting it; and, to prevent opening the fence where the gate now is, a deep ditch and a high bank would be necessary, from some distance below to the foot of the hill above, if not quite up to the meadow. One among other advantages resulting from this measure would be, that the west and even south fence of No. 5 might, if occasion required it, be applied, instead of new rails, in making the fence from the meadow towards the Mill, and around the creek, more substantial; for it must be repeated again, that, as there will be few or no inner fences, the outer ones must be unassailable by the most vicious stock.

The fences that are already around the meadows may remain, but there is no occasion for their being formidable. To guard them against hogs, if any should by chance get through the outer fence, is all that would be necessary.

Meadows

The large meadow below the Barn lane, and half of that above the lane, have had every thing done for them that is requisite, except manuring when necessary and the means are to be had. The remaining part of the last-mentioned meadow above must receive a complete summer fallow, to cleanse it of rubbish of all sorts, and be sown in proper season with timothy, with a protecting crop of rye for soiling the working mules in the spring.

Although I may find myself mistaken, I am inclined to put the other prong of this swamp, running through No. 6 and heading in No. 7, into meadow; and I have for this reason already directed the mode to be pursued for accomplishing it. Next to this, let as much of the inlet in No. 2 as can be laid dry enough for corn, be planted therewith, in order to erad-

icate the wild growth. When this is effected, lay it to grass. As the fields come round, the unreclaimed inlets may be prepared for grass, if circumstances and the force of the farm will admit of it. Of these there is one, besides a swamp in No. 3, which is susceptible of being converted into good grass ground; and the flat and low ground in No. 4, it is presumed, would bring grass also. Whether the part proposed to be added to field No. 5 had better be retained for arable uses, or laid to meadow, can be determined better after it is cleared, and cleaned of the wild growth, than now. But the inlets at the Ferry, between the dwelling and fish houses, might, by a small change of the fence from the gate of No. 1, be thrown into that field and brought into excellent meadow at very little expense, whensoever time and labor can be afforded for this purpose. To dwell on the advantages of meadow would be a mere waste of time, as the produce is always in demand in the market and for my purposes, and obtained at no other expense, than that of cutting the grass and making it into hay.

Crops, &c., for 1801

No. 2.— Being the field appropriated for corn, will be planted with this article accordingly, as already directed for 1800; the poor and washed parts continuing to receive all the aid that can be given to them.

No. 3.— Supposing it to have been fallowed and sown the year before, will this year produce a crop of wheat, the stubble of which, immediately after harvest, is to be turned in, and be sown with rye for the benefit of sheep in the day, during winter and spring, but which are to be housed at night. All the low and rich spots, capable of producing grass, must be sown with timothy or orchard-grass seeds, for the purpose of supplying seeds again; and a part of the field may be re-

served for a rye crop, or the sheep taken off early enough for the whole to yield enough of this grain to pay for the harvesting of it.

Nos. 4 and 5.— That part of No. 4, which lies next to the Mill, is, as has been directed already, to be planted with peach trees; the other part, called Manley's Field, with all that can be added to it, not exceeding forty acres, of woodland adjoining No. 6, and the upper meadow below the plank bridge, are to be fallowed for wheat, as No. 5 also is to be, with the addition at the west end taken from No. 4; and both of them, if it can be accomplished, but one certainly, must have the stubble, when the wheat comes off, sowed with rye for the sheep, and with grass-seeds upon low and rich places, for the purpose of raising seed. They are to be treated in all other respects as has been directed for No. 3.

The reason for preferring an addition to No. 4 from the woods east of the meadow, although the land is of inferior quality, is, because it requires no additional fencing, for the same fence that enclosed Nos. 6 and 7 encompasses this also; because it will be more convenient for supplying the Mansion with fire-wood; and because it will give a better form and appearance to the farm, than breaking into the woodland on the north side of the Mill road.

Crops for 1802, 1803, and so on.

The corn ground remaining the same *always*, two fields, in following numbers, will every year be fallowed for wheat, and treated in all respects as has been mentioned before. And, if pumpkins, cymlins, turnips, and such like growths are found beneficial to the land, or useful and profitable for stock, places enough may be found to raise them in.

All unnecessary wood is to be cut down, and removed from the fields, as they are cultivated in rotation.

Mud and Rich Earth for Composts,
Penning Cattle and Folding Sheep,
Feeding,
Stables and Farm Pens,

are all to be managed precisely as is directed for River Farm.

18

FOUR TABLES OF CROP ROTATION 1793–1799.

These tables are here inserted to show with what prodigious industry Washington studied the rotation of his crops looking for the greatest yield with the least investment. These tables were apparently made for comparative purposes, in an effort to discover which system of rotation would give the best results.

Jared Sparks in his "Writings of Washington" (1837) Vol. XII, p. 374, makes the following statement concerning these tables: —

"To understand the tables of *Rotation of Crops* which follow, it should be observed, that they all apply to one and the same farm, which contained 525 acres, and was divided into seven fields. The first part of each table indicates the kind of products destined for each field, under the respective years. Then follow the times for ploughing the different fields, and the number of days it will take; next, an estimate of the probable quantity and value of the products; lastly, remarks on the plan of the table, and on the results of the rotation.

"In a note attached to these tables, Washington says: 'The ploughing is calculated at three fourths of an acre per day. If, then, one plough will go over a seventy-five acre field in one hundred days, five ploughs will do it in twenty days. In some ground, according to the state of it, and the seasons, an acre at least ought to be ploughed per day by each team; but the estimate is made at three fourths of an acre, in order to reduce it to more certainty. The fields are all estimated at seventy-five acres each (although they run a little more or less), for the sake of more easy calculation of the crops, and to show their comparative yield.'"

ROTATION NO. 1

No. of the Fields	1793	1794	1795	1796	1797	1798	1799
3	Corn and Potatoes	Wheat	Buckwheat for Manure	Wheat	Clover or Grass	Clover or Grass	Clover or Grass
4	Clover or Grass	Corn and Potatoes	Wheat	Buckwheat for Manure	Wheat	Clover or Grass	Clover or Grass
5	Clover or Grass	Clover or Grass	Corn and Potatoes	Wheat	Buckwheat for Manure	Wheat	Clover or Grass
6	Clover or Grass	Clover or Grass	Clover or Grass	Corn and Potatoes	Wheat	Buckwheat for Manure	Wheat
7	Wheat	Clover or Grass	Clover or Grass	Clover or Grass	Corn and Potatoes	Wheat	Buckwheat for Manure
1	Buckwheat for Manure	Wheat	Clover or Grass	Clover or Grass	Clover or Grass	Corn and Potatoes	Wheat
2	Wheat	Buckwheat for Manure	Wheat	Clover or Grass	Clover or Grass	Clover or Grass	Corn and Potatoes

Number of ploughings, times at which they must be given, and number of days it will take.

Acres.		Fall	Winter	March	April	May	June	July	August	September	Total
No. 3. 75	Corn and Potatoes.										
	Breaking up	100	....	....	....	....	....	....	....	....	100
	Laying off, & listing	....	....	60	....	....	....	....	....	....	60
	Crossing for planting	....	....	....	10	....	....	....	....	....	10
	Ploughing balks	....	....	....	....	70	....	....	....	....	70
	Crossing them	....	....	....	....	....	70	....	....	....	70
	Re-crossing	....	....	....	....	....	....	70	....	....	70
	Sowing Wheat	....	....	....	....	....	....	....	75	....	75
4 5 6 225	Clover or Grass	....	....	....	....	....	....	....	....	....	
1. 75	Buckwheat for manure.										
	Breaking up	100	....	....	....	....	....	....	....	....	100
	Crossing for sowing	....	....	....	100	....	....	....	....	....	100
	Ploughing in	....	....	....	....	....	100	....	....	....	100
2. 75	Wheat. Corn ground	....	....	....	....	....	....	....	....	....	
7. 75	Do. or Buckwheat	....	....	....	....	....	....	....	100	....	100
525		200	....	60	110	70	170	70	175	....	855

			Probable Yield.				
No. 3.	75 ac. in	Corn, @ 12½ bushels	937½ bush.	@ 2s. 6d.	.....	£117	3s. 9d.
		Potatoes, 12½	937½	1		46	17 6
2, 7.	150	Wheat, 10	1500	5s.		375	0 0
1.	75	Buckwheat for manure.					
4, 5, 6.	225	Clover or grass.					
	525		3375			£539	1s. 3d.

Remarks.— The above rotation favors the land very much; inasmuch as there are but three corn crops taken in seven years from any field, and the first wheat crop is followed by a buckwheat manure for the second wheat crop, which is to succeed it, and which, by being laid to clover or grass, and continued therein three years, will afford much mowing or grazing, according as the seasons happen to be, besides being a restorative to the soil. But, then, the produce of the salable crops is small, unless increased by the improving state of the fields.

ROTATION NO. 2

No. of the Fields	1793	1794	1795	1796	1797	1798	1799
3	Corn and Potatoes	Buckwheat	Buckwheat for Manure	Wheat	Clover	Wheat	Clover
4	Clover	Corn and Potatoes	Buckwheat	Buckwheat for Manure	Wheat	Clover	Wheat
5	Pasture	Pasture	Corn and Potatoes	Buckwheat	Buckwheat for Manure	Wheat	Clover
6	Pasture	Wheat	Clover	Corn and Potatoes	Buckwheat	Buckwheat for Manure	Wheat
7	Wheat	Clover	Wheat	Clover	Corn and Potatoes	Buckwheat	Buckwheat for Manure
1	Buckwheat for Manure	Wheat	Clover	Wheat	Clover	Corn and Potatoes	Buckwheat
2	Wheat	Buckwheat for Manure	Wheat	Clover	Wheat	Clover	Corn and Potatoes

Ploughings, &c. for the above Crops.

	Acres		Fall	Winter	March	April	May	June	July	August	September	Total
No. 3.	75	Corn and Potatoes, same as No. 1.....	100	....	60	10	70	70	70	75	....	455
4. 6.	150	Clover	....	....	....	....	....	....	....	....	....	
1.	75	Buckwheat crop										
		Breaking up	....	....	100	....	....	....	....	....	....	100
		Second ploughing	....	....	....	....	....	100	....	....	....	100
2.	75	Wheat. Corn ground	....	....	....	....	....	....	....	....	....	
7.	75	Do. or Buckwheat	....	....	....	....	....	....	....	....	....	
		Breaking up	100	....	....	....	....	....	....	....	....	100
		Crossing and sowing	....	....	....	100	....	....	....	....	....	100
		Ploughing in Buckwheat	....	....	....	....	....	100	....	....	....	100
		Sowing wheat	....	....	....	....	....	....	....	100	....	100
5.	75	Buckwheat for manure, as above.....	....	....	....	....	....	....	....	....	....	
	525		200	....	160	110	70	270	70	175	....	1055

Probable Yield

	Acres		Bushels	Bushels						
No. 3	75 in Corn,	@	12½	937½	@	2s.	6d.	£117	3s.	9d.
	and Potatoes		12½	937½		1		46	17	6
4. 5. 6.	225 Clover and Grass									
2, 7.	150 Wheat		10	1500		5		375	0	0
1.	75 Supposed in Buckwheat		12	900		1	8	75	0	0
525				4275				£614	1s.	3d.

Remarks.— By the above rotation, 900 bushels of buckwheat, amounting to £75, is added to the proceeds of No. 7, at the expense of 200 days' more ploughing; and no two corn crops follow in immediate succession. Wheat, in one instance, follows a clover lay on a single ploughing; the success of this, though well ascertained in England, may not answer so well in this country, where our lands, from the exhausted state of them, require more manure than the farm can afford, and our seasons are very precarious.

ROTATION NO. 3

No. of the Fields	1793	1794	1795	1796	1797	1798	1799
3	Corn and Potatoes	Wheat	Buckwheat	Clover	Wheat	Buckwheat	Clover
4	Clover	Corn and Potatoes	Wheat	Buckwheat	Clover	Wheat	Buckwheat
5	Buckwheat	Clover	Corn and Potatoes	Wheat	Buckwheat	Clover	Wheat
6	Clover	Buckwheat	Clover	Corn and Potatoes	Wheat	Buckwheat	Clover
7	Wheat	Clover	Buckwheat	Clover	Corn and Potatoes	Wheat	Buckwheat
1	Buckwheat	Wheat	Clover	Buckwheat	Clover	Corn and Potatoes	Wheat
2	Wheat	Buckwheat	Wheat	Clover	Buckwheat	Clover	Corn and Potatoes

Ploughings, &c., for the above Crops.

	Acres		Fall	Winter	March	April	May	June	July	August	September	Total
No. 3.	75	Corn and Potatoes	100	....	60	10	70	70	70	75	....	455
4. 6.	150	Clover	....	....	....	....	....	....	....	....	....	
5. 1.	150	Buckwheat	....	....	....	....	....	....	....	....	....	
		Breaking up	....	....	....	100	100	....	....	....	....	200
		Sowing	....	....	....	....	....	100	100	....	....	200
7. 2.	150	Wheat	....	....	....	....	....	....	....	....	....	
		1 field follows Corn	....	....	....	....	....	....	....	....	....	
		The other Clover, one ploughing	....	....	....	....	....	....	....	100	....	100
	525		100	....	60	110	170	170	170	175	....	955

Probable Yield.

	Acres										
No. 3.	75 ac. in	Corn, @	12½	bushels	937½	bush. @	2s.	6d.	£117	3s.	9d.
		Potatoes,	12½		937½		1		46	17	6
4, 6.	150	Clover									
5, 1.	150	Buckwheat	12		1800		1	8	150	0	0
7, 2.	150	Wheat	10		1500		5		375	0	0
	525				5175				£689	1s.	3d.

Remarks.— This rotation, for quantity of grain and the profit arising from it, is more productive than either of the preceding; and with no more ploughings; excepting No. 1. No field gives more than three corn crops in seven years, except the crop of buckwheat; the last of which, with the Indian corn, will be more than adequate for all the demands of the farm. The clover is to be sown with the buckwheat in July; and, by being only one year in the ground, may be too expensive on account of the seed. Nor will the field in this course receive much manure; and the advantages of sowing wheat on a clover lay, in this country, are not well ascertained. Again, preparing two fields for buckwheat may, in practice, be found difficult. Wheat stubble might be ploughed in here for spring food.

ROTATION NO. 4

No. of the Fields	1793	1794	1795	1796	1797	1798	1799
3	Corn and Potatoes	Wheat	Clover	Wheat	Clover	Wheat	Buckwheat
4	Buckwheat	Corn and Potatoes	Wheat	Clover	Wheat	Clover	Wheat
5	Wheat	Buckwheat	Corn and Potatoes	Wheat	Clover	Wheat	Clover
6	Clover	Wheat	Buckwheat	Corn and Potatoes	Wheat	Clover	Wheat
7	Wheat	Clover	Wheat	Buckwheat	Corn and Potatoes	Wheat	Clover
1	Clover	Wheat	Clover	Wheat	Buckwheat	Corn and Potatoes	Wheat
2	Wheat	Clover	Wheat	Clover	Wheat	Buckwheat	Corn and Potatoes

Ploughings, &c. for the above Crops.

Acres	Fall	Winter	March	April	May	June	July	August	September	Total
No. 3. 75 Corn and Potatoes	100	....	60	10	70	70	70	75	....	455
4. 75 Buckwheat.										
Breaking up	....	100	....	....	....	....	....	....	....	100
Second ploughing	....	....	....	....	....	100	....	....	....	100
6. } 1. } 150 Clover	....	....	....	....	....	....	....	....	....	
2. 75 Wheat. Corn ground	....	....	....	....	....	....	....	....	....	
5. } 7. } 150 Do. or Clover, one ploughing	....	....	....	....	....	....	....	105	105	210
525	100	100	60	10	70	170	70	180	105	865

		Acres		Bushels	*Probable Yield* Bushels						
No.	3.	75	in Corn,	@ 12½	937½	@ 2s.	6d.	.....	£117	3s.	9d.
			Same in Potatoes,	12½	937½	1		.....	46	17	3
	4.	75	Buckwheat,	12	900	1	8	.....	75	0	0
	6, 1.	150	Clover								
	2, 5, 7.	225	Wheat	10	2250	5		.....	562	10	0
		525			5025				£801	11s.	0d.

Remarks.— By the above rotation, the quantity of grain is *nearly* equal to that of No. 3, and the value of it greater; occasioned by the increase of wheat. This rotation is effected with as little ploughing as No. 1, and with less than in either of the other two numbers, 2 and 3. But in this course no green manure is introduced, unless ploughing in clover, is so considered; and the quality of the clover on much reduced land is to be questioned; and the practice of sowing on it, as has been observed in some of the other numbers, not much used, nor the advantages of it well ascertained. Besides, there is the expense of clover-seed for 150 acres every year to be encountered.

19

EXTRACT FROM WASHINGTON'S DIARY —

Dec. 7 to 13 (Inclusive) 1799.

This extract is added to the collection to indicate the way in which Washington kept up his diary even to the night before he died. It shows what a keen observer he was, and how painstaking in recording his observations.

It was during the night of the 12th that he was attacked by the illness from which he died on the 14th of December, 1799.

EXTRACT FROM A DIARY FOR DECEMBER, 1799.

December 7th.— Rainy morning, with the wind at north; mercury at 37. Afternoon, clear and pleasant; wind westerly. Mercury 41 at night. Dined at Lord Fairfax's.

8th.— Morning perfectly clear, calm, and pleasant; but about nine o'clock the wind came from the northwest and blew frost. Mercury 38 in the morning, and 40 at night.

9th.— Morning clear and pleasant, with a light wind from northwest. Mercury at 33. Pleasant all day; afternoon calm. Mercury 39 at night. Mr. Howell Lewis and wife set off on their return home after breakfast; and Mr. Lawrence Lewis and Washington Custis, on a journey to New Kent.

10th.— Morning clear and calm; mercury at 31. Afternoon lowering; mercury at 42, and wind brisk from the southward. A very large hoar-frost this morning.

11th.— But little wind, and raining. Mercury 44 in the morning, and 38 at night. About nine o'clock the wind shifted to the northwest, and it ceased raining, but continued

cloudy. Lord Fairfax, his son Thomas, and daughter, Mrs. Warner Washington and son Whiting, and Mr. John Herbert, dined here, and returned after dinner.

12th.— Morning cloudy; wind at northeast; mercury 33. A large circle round the moon last night. About one o'clock it began to snow; soon after, to hail, and then turned to a settled cold rain. Mercury 28 at night.

13th.— Morning snowing, and about three inches deep. Wind at northeast, and mercury at 30. Continued snowing till one o'clock, and about four it became perfectly clear. Wind in the same place, but not hard. Mercury 28 at night.

INDEX

Agriculture, Board of, 100
England, 22, 40
United States, 21, 22, 39, 100, 104
Agricultural Society, 38
Anderson, James, 106
Annals of Agriculture, 22, 26, 38, 39, 40, 41
Artichoke, Jerusalem, 33

Barley, 18, 19, 27, 29, 30, 32, 40, 53, 54, 58, 76, 101, 102
Barns, 49
Beans, 27, 39, 40, 103
Biddle, Clement, 31
Bland, Theodoric, 34
Bricklaying, 18
Brickwork, 50
Buckwheat, 52, 54, 55, 56, 59, 93, 94, 109, 121
Burnet, 22

Cabbage, 23, 75
Carrots, 19, 54, 55, 59, 60
Cattle, 40, 41, 42, 87 ff., 104, 109, 110–113
Chicory, 92 ff.
Clay, 27, 76
Clearing, 74, 79
Clover, 93, 103, 110, 121, 122
Compost, 112, 119
Convention, Constitutional, 37
Corn, 18, 19, 34, 35, 39, 41, 42, 52, 53, 54, 55, 58, 59, 61, 76, 88, 93, 101, 110, 111, 113, 116, 117, 119, 121, 124, 125, 126
Cropping, 24, 40, 43, 76
Crops, for 1801, 116 ff., 125 ff.
For 1802, 1803, 126
River Farm, 109
Rotation of, 39, 40, 106
Statements of, 62 ff.
Cymlins, 109, 117, 122, 126

Diary of Washington, 141
Dogue Run, 18, 19, 50, 52, 53, 54, 56, 59, 78, 85, 91, 122

England, Agriculture in, 22, 40
Implements ordered, 22
Estates, free-hold, 99

Fairfax, John, 44
Farm, contents, 91
Farm-yard plan, 27
Feeding, 113
Fencing, 53, 57, 59, 77, 103, 108, 115, 120, 122 ff., 126
Ferry, 19, 49, 50
Fertilizer (see) Buckwheat, Compost, Manure, Mud, Stubble
Flax, 55, 56, 59
Flour, 78

Garden, botanical, 51
Grain, 49
Grapes, 75
Grass, 17, 19, 22, 23, 29, 40, 48, 49, 58, 61, 74, 77, 99, 103, 104, 109, 116, 118, 120, 125, 126
Grass, orchard, 61, 104, 125

Harrow, 35
Triangular, 42, 43
Harrowing, 18, 19, 22, 43
Harvesting, 48, 49
Hedges (see fencing)
Hessian fly, 78
Hogs, 113, 114, 123
Horses, 113
Husbandry, 22, 24, 40, 41, 43, 76, 104

Jefferson, Thomas, 92

Labor, price of, 41
Land, recovered, 48
Loam, 27, 83
Locusts, honey, 50
Lucerne, 120, 121

Machine, barley, 30
Maize, 39, 88
Management, 44, 45, 104
  Farms, 101, 104 ff., 106
  System, 104 ff.
  Mt. Vernon, 47
Manager, Reports, 62 ff.
Mansion House, 53, 74, 123
  Farm, 60, 82
Manure, 18, 19, 38, 47, 48, 52, 57, 58, 60, 76, 110, 116, 121, 122, 124
  Bean, 103
  Buckwheat, 52, 55, 58, 82, 109
McHenry, 96
Meadows, 111, 124, 125
Melons, 122
Meteorological Table, 68
"Mill," 37, 41
Millet, 18
Mount Vernon, 37, 47, 52, 81 ff.
Mud, compost, 60, 112, 119
Muddy Hole, 17, 18, 19, 22, 49, 52, 53, 56, 78, 85, 91, 120, 122
Mulberry, 75
Mules, 113

Neck, The, 18, 19, 22, 49

Oats, 17, 18, 19, 27, 34, 53, 54, 58, 75, 95, 100, 101, 102, 109, 110, 116 ff., 120, 121
Oyster shells, 50

Pasture, 111, 118, 122
Pea, 93, 94, 101
Peach Trees, 120
Pease, 19, 22, 34, 40, 55, 56, 109, 117, 120, 121
Pens, 114
Peters, Richard, 42
Peters, Thomas, 29
Plan, barn, 39
  Farm-yard, 27
Plantations, 45, 52, 81 ff.
Planter, 34 ff.
Ploughman, 39
Plow, 22, 38, 39, 56, 59, 75
  Barrel, 34
  Drill, 18, 34
  Rotherham, 22
Plowing, 42, 93, 94, 118, 121, 130, 133, 136, 139
Potatoes, 19, 42, 54, 56, 59, 60, 94, 110, 121, 122
Price, cows, 41
  Seeds, 40
Pulse, 93
Pumpkins, 56, 109, 117, 122, 126

Repairs, 49
Reports of Manager, 62 ff.
River Farm, 58, 85, 91, 109, 117
Road-making, 49
Rollers, 103
Rolling, 18
Rotation, Crops, 39, 76, 93, 95, 101, 106, 109 ff., 116 ff., 118 ff.
  Plantations, 52 ff., 85
  Tables (Four), 128 ff.
Rye, 23, 29, 32, 40, 109, 116, 119, 122, 124, 126

Sainfoin, 23, 27
Sand, 27
Seeds, 27, 40, 50, 102
  Artichoke, 32
  Barley, 30, 32
  Beans, 27, 39
  Burnet, 23
  Cabbage, 23
  Clover, 23, 30, 32, 50
  Oats, 27
  Rye, 23
  Sainfoin, 27, 39
  Timothy, 34, 50
  Turnip, 23
  Vetch, 23
  Wheat, 27

Sheep, 41, 109, 112, 113, 116, 118, 125
Society, Agricultural, 38
Soil, 18, 19, 27
Sowing, Barley, 18, 55
Buckwheat, 54, 56
Carrots, 19, 55
Clover, 54, 55
Corn, 18, 19, 35, 55
Flax, 55
Grain, 49
Grass, 19, 49
Millet, 18, 19
Oats, 17, 18, 19, 55
Pease, 19, 22
Potatoes, 19, 56
Pumpkins, 56
Rye, 54
Timothy, 54, 55
Turnips, 56
Wheat, 18, 19, 49, 54
Stables, 114
Staple, 27
Statements, specimen, 62 ff.
Stock, 24, 33, 45, 53, 54, 57, 79, 108, 115, 117, 120, 122
Strickland, William, 98
Stubble, 109, 118, 120, 125
Succory, 93
System, Management, 104 ff., 106 ff.

Taxes, 50
Thresher, 37, 41
Timothy, 34, 50, 54, 55, 110, 116, 124, 125
Tobacco, 39, 48, 54, 55, 56, 58, 59, 60, 61
Turnips, 17, 23, 56, 109, 121, 122, 126

Union Farm, 84, 91, 118

Vetch, European, 101
Winter, 23, 92 ff.

Wages, ploughman, 24
Workman, 50
Washington, Character of, 31, 42, 44, 47, 52
Washington, George A. (nephew), 47
Waste, 48, 49
Weevil, 95
Welch Wakelin, 24
Wheat, 29, 32, 34, 39, 40, 48, 49, 59, 61, 76, 95, 104, 109, 110, 112, 118, 119, 120, 126
Wheat, Cape, 17
Siberian, 18, 19
Velvet, 27
Whiting, Anthony, 73 ff.

Yield, 32, 40, 93, 134, 137
Young, Arthur, 21, 26, 34, 37, 38, 81

Letters to Arthur Young on Husbandry. 1801

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