

Received March 9, 1768.

XI. *A Letter from John Ellis, Esquire, F. R. S. to the President, on the Success of his Experiments for preserving Acorns for a whole Year without planting them, so as to be in a State fit for Vegetation, with a View to bring over some of the most valuable Seeds from the East Indies, to plant for the Benefit of our American Colonies.*

Read March 10,
1768. **H**AVING discovered that the disappointment, which I met with about a year ago, in attempting to preserve through the season some ever-green oak acorns and some chefnuts in wax, was owing to their being unfit for vegetation at the time of my inclosing them; I resolved in my next attempt to try only such as I was persuaded were found and fresh.

Fortunately, my curious and learned friend the Right Honorable Sir Thomas Sewell Master of the Rolls, hearing of my distress, offered to procure me some excellent acorns of the english oak, part of a parcel he had been sowing at his seat at Ottershaw near Chertsey in Surrey; these he was so obliging to send me the 20th of February 1767; part of them I sowed immediately under the windows of my chambers, in the kitchen garden of Grays Inn: and on the 22d of the same month I inclosed about 36 of them in bees-
L 2 wax.

wax. Most of those that I had sown in the garden came up in June following 1767, and by the middle of September were 6 inches high.

This gave me some hopes that I should not labour in vain as I had done before; for part of the same parcel of ever-green oak acorns which failed, I had given to Sir Thomas Sewell the year before to sow, and he assures me that not one of them came up with him. I likewise discovered, though too late, that the Spanish chesnuts, which failed, had been kiln-dried; this is a common practice in Spain, to prevent their sprouting by the damp heat in the hold of the ship.

I should not, my Lord, be so particular in explaining the cause of my disappointment, but to shew the care that is necessary to be taken by persons abroad in the choice of the seeds, as well as the state they ought to be in, if they expect they should answer the great end we propose.

Before I mention the method in which I treated these acorns, I must observe to your Lordship, that though I have formerly been so successful as to preserve both acorns and chesnuts for the space of a year in bees wax, several of which have afterwards vegetated, and some of them are now grown into trees; yet I always found that many of them were rotten when they were taken out of the wax; which made me suspect that it was owing to the too great heat of the melted wax, that so many of them were destroyed. This put me on thinking of the following method to guard the seeds to be preserved from too great heat, which I have now the pleasure to shew your Lordship and the rest of the Royal Society the good effects of.

After

After I had chosen out the fairest acorns, laying aside such as had specks proceeding from the wounds of insects, I wiped them very clean till they were quite bright, for fear of any condensed perspiration on the surface, which if inclosed, would turn to mouldiness. I then poured some melted bees-wax into a china plate about half an inch deep, and soon as the wax was cool, but still very pliable, I cut out with a penknife as much as would inclose one acorn; this I wrapped round it, rolling it between my hands till the edges of the wax were perfectly united: in the same manner I covered about 36 of them with all the caution in my power, so that after they had been set to harden I could not perceive the least crack in them. When they were quite cold and hard, I prepared an oval chip box, of 7 inches long, $4\frac{1}{2}$ broad, and $3\frac{1}{2}$ deep; into this I poured melted bees-wax to the depth of an inch and half; and when I could bear my finger in it, I laid the covered acorns at the bottom in rows as close as I could together; afterwards other rows over them, till the box was full; and when the first wax began to cool, I poured some wax that was barely fluid over the uppermost acorns till they were quite covered. In order to cool them as soon as possible, I set the box near a window, where the sash was raised a little to let in a stream of cold air; when they were almost cold, I perceived the wax had shrunk a little here and there, and left some chinks; these I immediately filled up with very soft wax, pressing it very close and smooth. After it was quite cold and hard, I put on the cover of the box, and placed it on a shelf in a closet till the beginning of August last, when I sent it to the care of Mr. Dacosta, clerk to the Royal Society, to their house in
Crane

Crane Court, to be produced and examined before the Royal Society at some of their first meetings after the long vacation. My health would not permit me to attend myself; but I am informed, my Lord, that when they were cut open and examined before your Lordship and the rest of the Royal Society present, their appearance promised success; and that they were ordered to be delivered by Dr. Morton, secretary to the Royal Society, to the care of Mr. William Aiton, Botanic Gardiner to her Royal Highness the Princess Dowager of Wales at Kew at my request, that the Royal Society might be informed whether they would vegetate.

I have just now, my Lord, had the pleasure of receiving a letter from Mr. Aiton, advising me, that he had sent to Mr. Robertson, housekeeper to the Royal Society, two pots with the young oaks rising from the acorns preserved in wax, which Dr. Morton sent him from the Royal Society in December last; and am well persuaded he has carefully attended to an experiment, the success of which, if properly followed, may in a few years put us in possession of the most rare and valuable seeds in a vegetating state from the remotest parts of the world, which in time may answer the great end of the improvement and advancement of our trade with our American Colonies. I am,

My Lord,

with the greatest respect,

Your Lordship's

most humble and obedient servant,

Gray's-Inn, March 9,
1768.

John Ellis.

SIR,

Kew, March 8, 1768.

S I R,

I Received December 5, 1767, of Doctor Morton of the British Museum a parcel of acorns preserved in wax (the quantity of acorns which I received was 34); and according to your desire and direction they were sowed, as soon as I received them, into a sandy light loom. I placed the pots with the acorns under a frame, where they remained till January the 28. I then took the pots with the acorns out of the frame, and placed them near a window, in one of our large airy stoves, where they have remained ever since; according to your desire, they shall be sent to-morrow to the Royal Society's house. I think the gentlemen of that Honourable Society will be pleased to see the method of preserving seeds in wax prove so successful; as the acorn is one of the worst of seeds to keep any time, out of the ground, from perishing; and the good success there is from those few which I received from Doctor Morton. I am, therefore, of the opinion, that, if seeds are found and dry, and carefully put up in the wax, it is the best method that has ever been found out to preserve seeds from distant countries.

I am, Sir,

Your most obedient and humble servant,

To John Ellis, Esq;
Gray's-Inn.

William Aiton.

N. B. There are sixteen in one pot, and nine in the other, that are already come up, and most of them from four to six inches high.