

## DIFFERENT PARTS OF THE TUBERS OF *DIOSCOREA ALATA* SPROUT AT DIFFERENT RATES.

In the Journal of the Asiatic Society of Bengal 1911, p. 467. I gave an account of observations on the bulbils *Dioscorea bulbifera*, Linn., showing that shoots are more freely formed from the basal part of the bulbil than from the apical; and that if the bulbil be halved the shoots are generally produced towards the base on either half but, that sprouting is quickest on the lower halves. I here give some observations made on the tubers of *Dioscorea alata*, which show that in them the older parts more quickly sprout than the younger. The result is as would be expected, but to demonstrate it was desirable, in connection with observations in hand on the earliness or lateness of various races under study; for when we have recognised that sets cut from different parts of a tuber send out shoots relatively quickly or relatively tardily according to the position from which they have been taken, we are one step forward from the danger of comparing the unequal in attempting the separating out of precocious and late races.

The observations have been made in this way. Taking all the tubers reported on in the preceeding note pp. 297-302, they were cut up into sets of about two pounds weight each, and planting was done on December 2nd, 1914, in such way that the oldest part of each tuber was towards one end of the trenches dug for the crop, and the youngest parts towards the other end. The sets, which had previously been treated carefully with potassium permanganate and dried until the cut surfaces were hard, were earthed over to a depth of about four inches and then the appearance of their shoots above ground was watched for and recorded in the number of days which on their emergence had elapsed from planting. The following table details the result: in the first column is the number or name under which the race has been grown, in the other columns are the number of days between planting and the appearance of the shoots above ground. The reader will see that a lesser period is generally recorded in the second column than in the others and that the period lengthens towards the right, i.e., towards the tip of the tuber. As some of the tubers were branched e.g., that figured as No. 2 on page 299, the order in which the parts were placed could not be made in every case to represent exactly the actual tuber, but nevertheless the general result is quite obvious, namely, that the more or less woody top of the tuber is the most ready to sprout and the tip least. As man usually keeps the top for propagation and eats the tip, which is the most esculent, in so doing he gets the advantage for his planting of using that part which nature has most ready for the purpose.

There is evidence in the table that races vary considerably in precocity or lateness, thus the latest named yam showed itself most distinctly earlier in sprouting than the one immediately before it: and the yams which were figured on page 301 showed themselves late; but these and other similar observations will be the subject of another report, when more statistics are available.



**Number of days from December 2nd. which elapsed before  
Shoots appeared above Ground.**

Registration Number of root.	Top Set.	Lower sets, more or less in descending order.												
940 Philippines...	30	23	55	78	—	—	—	—	—	—	—	—	—	—
947 " ...	24	48	51	—	—	—	—	—	—	—	—	—	—	—
938 " ...	40	40	—	—	—	—	—	—	—	—	—	—	—	—
1,025 " ...	58	35	64	89	—	—	—	—	—	—	—	—	—	—
1,019 " ...	14	94	81	64	106	—	—	—	—	—	—	—	—	—
1,387 " ...	49	52	—	—	—	—	—	—	—	—	—	—	—	—
2,712 " ...	25	27	62	—	—	—	—	—	—	—	—	—	—	—
958 " ...	61	76	78	78	78	110	—	—	—	—	—	—	—	—
824 " ...	23	44	—	—	—	—	—	—	—	—	—	—	—	—
1,031 " ...	53	52	—	—	—	—	—	—	—	—	—	—	—	—
" Unknown," from Manila ...	82	89	106	108	—	—	—	—	—	—	—	—	—	—
1,044 Philippines...	43	61	—	—	—	—	—	—	—	—	—	—	—	—
963 " ...	43	41	81	64	—	—	—	—	—	—	—	—	—	—
329 " ...	17	51	24	25	77	—	—	—	—	—	—	—	—	—
3,790 " ...	90	108	—	—	—	—	—	—	—	—	—	—	—	—
937 " ...	47	68	49	75	—	—	—	—	—	—	—	—	—	—
1,023 " ...	21	61	75	—	—	—	—	—	—	—	—	—	—	—
1,042 " ...	15	23	23	53	—	—	—	—	—	—	—	—	—	—
1,055 " ...	90	63	61	—	—	—	—	—	—	—	—	—	—	—
3,793 " ...	24	23	24	23	82	48	96	—	—	—	—	—	—	—
1,054 " ...	20	37	39	39	40	—	—	—	—	—	—	—	—	—
955 " ...	13	41	108	79	—	—	—	—	—	—	—	—	—	—
1,095 " ...	46	106	45	—	—	—	—	—	—	—	—	—	—	—
1,056 " ...	40	52	—	—	—	—	—	—	—	—	—	—	—	—
1,692 " ...	23	89	82	64	—	—	—	—	—	—	—	—	—	—
No Number, from Manila ...	37	79	23	—	—	—	—	—	—	—	—	—	—	—
1,057 Philippines...	94	40	52	52	51	53	60	51	64	56	53	55	—	—
1,046 " ...	84	85	103	—	—	—	—	—	—	—	—	—	—	—
1,040 " ...	85	110	124	—	—	—	—	—	—	—	—	—	—	—
945 " ...	39	94	54	112	130	—	—	—	—	—	—	—	—	—
943 " ...	90	90	58	110	106	—	—	—	—	—	—	—	—	—
956 " ...	94	110	110	—	—	—	—	—	—	—	—	—	—	—
960 " ...	20	37	—	—	—	—	—	—	—	—	—	—	—	—
330 " ...	20	38	—	—	—	—	—	—	—	—	—	—	—	—
Oebi merah of Singapore ...	63	89	125	89	85	90	64	*	110	37	—	—	—	—
Oebi from Bukit Timah ...	13	13	11	13	13	12	23	20	14	12	37	23	35	35

\* Destroyed by slugs.