TABLE L

*Mean Results of a Series of Experiments on the Elasticity and Transverse Strength of different kinds of Timber grown in India, Made by Captain H. C. Baker, Superintendent of Suspension Chain-Bridges in Bengal.*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Names of the woods, and Dimensions of the Specimens.** | **Probable Date of Importation.** | **Number of Experiments of which the Mean Reults are given.** | **Specific Gravity.** | **Greatest weight and Deflection while the Elasticity remained perfect.** | | **Breaking Weight in Pounds.** | **Ultimate Deflection in Inches.** | **Value of *u* from the Formula U = l^3/d**Δ. \*\*\* | **Value of E from the Formula E = l^3W/ad3δ**. \*\*\* | **Value of S from the Formula S = lW/4ad3**. \*\*\* |
| **Weight In Pounds.** | **Deflec­tion in Inches.** |
| **Morung Saul.** |  |  |  |  |  |  |  |  |  |  |
| ***In specimens eighty-four inches long, two inches square, and*** |  |  |  |  |  |  |  |  |  |  |
| ***seventy-two incites between the supports.*** |  |  |  |  |  |  |  |  |  |  |
| **Cut clear of the heart, from a chowker of the second size** | **1825** | **8** | **928** | **450** | **1∙128** | **1121** | **4∙34** | **602** | **9306382** | **2522** |
| **Neem chowker, rut from near the outside** | **1822**  **1814**  **1812** | **4** | **1054**  **928**  **1052** | **450** | **1∙175**  **1·116** | **1003 1192**  **863** | **3∙72**  **3·50** | **696** | **8934121**  **9400451** | **2267**  **2684** |
| **Chowker, prime, seasoned** | **3** | **450** | **740**  **778** |
| **Beam of Tolly-Gunge Bridge, built in 1812, rebuilt in 1819** | **3** | **300** | **1·016** | **3∙33** | **6888188** | **1942** |
| **Dawker, young timber, cut clear of the heart** | **1825** | **9** | **934** | **450** | **1∙21** | **1040** | **3·7** | **704** | **8675702** | **2340** |
| **Ditto, cut near the heart** | **1825** | **4** | **842** | **300** | **·906** | **946** | **3·87** | **670** | **7724503** | **2128** |
| ***Specimens seventy-two inches long, two inches square, and sixty-*** |  |  |  |  |  |  |  |  |  |  |
| ***six inches between the supports.*** |  |  |  |  |  |  |  |  |  |  |
| **Promiscuously taken from young and old heart and outside timber** |  | **20** | **1069** | **500** | **1∙009** | **1134** | **3∙3** | **660** | **8904112** | **2339** |
| **Seasoned.** | **1818** | **3** | **987**  **1005**  **945** | **500**  **550**  **500** | **11·41**  **·925**  **·954** | **1166**  **1366**  **1174** | **3∙37**  **3∙4**  **3∙6** | **646**  **640**  **605** | **7874014**  **10683973**  **9417452** | **2405** |
| **Selected from Gurreah Haut Bridge, built in 1819** | **1** | **2817**  **2421** |
| **Neem chowker, cut near the heart, not prime timber** | **1825** | **6** |
| **Dawker, young timber, cut clear of the heart** | **1826**  **1826**  **1823**  **1826** | **16** | **1011**  **993**  **995**  **1015** | **500**  **500**  **500**  **450** | **1·033**  **1·079 1∙075 1·312** | **1155**  **1147**  **1238**  **825** | **3·4**  **4·2**  **4·1**  **3∙37** | **640** | **8784213**  **8326459**  **8357011**  **6162976** | **2382** |
| **Batty** | **6** | **518**  **544**  **646** | **2366** |
| **Goruçkpore saul** | **10**  **4** | **2419** |
| **Neem saul ; chowker, sap-wood, inferior specimens** | **1700** |
|  |  |
| **Teak.** |  |  |  |  |  |  |  |  |  |  |
| **Duggy Rangoon, supposed to have been imported some**  **years** |  | **5** | **687** | **330** | **1·006** | **873** | **3∙13** | **828** | **7652326** | **1964** |
| **Dittο** | **1825**  **1825**  **1825**  **1826**  **1826**  **1827** | **6** | **690**  **730**  **724**  **688**  **743**  **743** | **550**  **450**  **500**  **400**  **500**  **500** | **1∙158**  **1∙266**  **1·116 1∙341 1·073**  **1·05** | **869**  **876 1137 1100 1002**  **993** | **4·68 3∙3**  **3∙4**  **3·7**  **2∙83**  **335** | **553** | **7050777**  **6386907**  **8050403**  **6471875**  **8357011**  **8556428** | **1955**  **1806**  **2345**  **2175**  **2066 2048** |
| **Pegu** | **3** | **660** |
| **(1) Malabar** | **3** | **640**  **588**  **769**  **650** |
| **Luzzar** | **3** |
| **Malabar** | **3** |
| **Mug gun-carriage plank** | **2** |
|  |  |
| **Sissoon.** |  |  |  |  |  |  |  |  |  |  |
| **Inferior, cut near the root, seasoned.....** |  | **2** | **691** | **300** | **1·162** | **804** | **3∙95** | **668** | **6022719 4178149 5829197** | **1809** |
| **Ditto** | **1819** | **3** | **714**  **724** | **300** | **1·675**  **1·233** | **1030** | **3841** | **535** | **2317**  **2272** |
| **Very fine, seasoned** | **1819** | **6** | **400** | **1102** | **4.4** | **495** |
| **Toon.** |  |  |  |  |
| **From Chittagong** |  | **3** | **643** | **300** | **·816** | **800** | **4∙3** | **506** | **6606066** | **1650** |
| ***In specimens three feet long, one inch broad, one and half inch*** |  |
| ***deep, and thirty-three inches between the supports.*** |  |  |  |  |  |  |  |  |  |  |
| **Saul, slected to fair a fair average** |  | **24** |  |  |  | **663** | **1∙34** | **536** |  | **2431** |
| **Teak** |  | **12** |  |  |  | **567** | **1·2** | **605** |  | **2080** |
| **Teak, inferior specimens** |  | **14** |  |  |  | **363** | **·83** | **583** |  | **1996** |
| **Sissooh** |  | **8** |  |  |  | **579** | **1∙534** | **473** |  | **2123** |
| **Ditto** |  | **13** |  |  |  | **330** | **1∙2** | **403** |  | **1815** |
| **Jarrol** |  | **11** |  |  |  | **486** | **1·03** | **470** |  | **2673** |
|  |  |  |  |  |  |  |  |  |

In order to make this valuable series of mean results as useful as possible, we have formed a similar Table from the mean results of the ex­periments made by Professor Barlow, and published by him in his work on the Strength of Timber. The two Tables taken together form a most interesting and perfect series of results.