

TABLE 1
DNA CONTENT, CELL VOLUME AND MINIMUM DOUBLING TIME FOR PROKARYOTES

| Species | DNA (pgm) Volume (μ^3) Doubling Time (h) | Species | DNA (pgm) Volume (μ^3) Doubling Time (h) | Species | DNA (pgm) Volume (μ^3) Doubling Time (h) |
|-----------------------------------|--|-------------------------------------|--|-------------------------------------|--|
| SCHIZOMYCOPHYTA | | | | | |
| <i>Aerobacter aerogenes</i> | .002 ^a | <i>Salmonella typhimurium</i> | .0044 | <i>S. pyrogenes</i> | .0021 |
| | ... | | ... | | .27 |
| | .698 ^b | | .81 ^b | <i>S. agalactiae</i> | .002 |
| <i>Bacillus subtilis</i> | .0038 | <i>Clostridium welchii</i> | .024 ^d | | .382 |
| | 1.1 | | ... | <i>Neisseria</i> sp. | .0022* |
| | .94 ^b | | 1.53 | | .27 |
| <i>B. cereus</i> | .0043 | <i>Pseudomonas</i> | | <i>Acaligenes odorans</i> | .0031 |
| | 3.8 | <i>fluorescens</i> | .0045 | | .25 |
| | .74 | | 1.13 | <i>Haemophilus influenzae</i> | .0022* |
| <i>B. megatherium</i> | .011 ^a | | 1.08 | | .061 |
| | ... | <i>P. putida</i> | .0045 | <i>H. aegypticus</i> | .0019 |
| | .828 | | 1.13 | | .193 |
| <i>B. anthracis</i> | .0046 | <i>Proteus vulgaris</i> | .0035 | <i>Moraxella osloensis</i> | .0025 |
| | 3.8 | | .39 | | 2.45 |
| <i>B. polymyxa</i> | .0046 | | .976 | <i>Pasteurella multocida</i> | .0019 |
| | 1.35 | <i>Serratia marcescens</i> | .0083 ^c | | .615 |
| <i>Diplococcus pneumoniae</i> .. | .0024 ^c | | ... | <i>Nitrosococcus</i> sp. | .0036 |
| | ... | | .84 ^b | | 3.3 |
| | .879 | <i>Staphylococcus aureus</i> | .0024 | <i>Nitrosomonas</i> sp. | .0023 |
| <i>Escherichia coli</i> | .0037 | | .382 | | .85 |
| | 5.31 | <i>S. albus</i> | 1.19 | <i>Bdellovibrio</i> | .0026* |
| | .554 | | .0019 | | .08 |
| <i>Mycoplasma</i> | | | ... | <i>Vibrio metschnikovii</i> | .0038 |
| <i>gallisepticum</i> | .0008 ^e | <i>Streptococcus faecalis</i> | 1.05 | | .44 |
| | .018 | | .0024 | | |
| | | | .221 | | |
| | | | 1.16 | | |
| CYANOPHYTA | | | | | |
| <i>Synechococcus</i> 7424 | .007 | <i>Chamaesiphon</i> 7430 | .006 | <i>Nodularia</i> 73104 | .0055 |
| | 128 | | 26.5 | | 57 |
| 7335 | .0052 | 6605 | .006 | <i>Nostoc</i> 73102 | .0081 |
| | 2.4 | | 13.0 | | 50.2 |
| <i>Anacystis nidulans</i> | .0038 | <i>Pseudanabaena</i> 7402 | .0042 | 6705 | .0092 |
| | 4 | | 11.5 | | 20.6 |
| <i>Synechocystis</i> 6808 | .0035 | 7429 | .0056 | <i>Calothrix</i> 7116 | .009 |
| | 19 | | 13.2 | | 124 |
| 7509 | .0058 | 6406 | .0063 | 7507 | .0091 |
| | 18.8 | | 2.3 | | 37.2 |
| <i>Gloeobacter</i> 7421 | .0045 | LPP group 7376 | .0044 | <i>Chlorogloeopsis</i> 6718 | .0087 |
| | 2.1 | | 2.4 | | 33.5 |
| <i>Gloeocapsa</i> 73106 | .0049 | 7505 | .0064 | <i>Fischerella</i> 7521 | .006 |
| | 65.4 | | 3.66 | | 7.3 |
| 7428 | .0058 | 7408 | .0086 | 7115 | .0076 |
| | 8.2 | | 12.9 | | 48.4 |
| | | <i>Anabaena</i> 7122 | .0053 | 7414 | .0079 |
| | | | 25.9 | | 46.4 |
| | | 7120 | .0062 | | |
| | | | 18.5 | | |

NOTE.—Most values for bacteria were derived as follows: DNA content from genome size estimates in Wallace and Morowitz (1973); cell volume from mid-point of size range in Buchanan and Gibbons (1974); doubling time from Altman and Dittmer (1962). All doubling times were standardized to 23° C assuming a Q_{10} of 2.0 for doubling time (Brock 1967; Eppley 1972; Goldman and Carpenter 1974). Values for blue green algae were derived as follows: DNA content from genome size estimates in Herdman et al. (1979); cell volume from cellular dimensions taken from photographs in Rippka et al. (1979). The number in parentheses following certain values indicates references other than those above: ^aSober 1970; ^bLeick 1968; ^cBak et al. 1970; ^dWebb 1953; ^eMorowitz 1967.

* Mean of several values.