

A. Papyrus

The uncorrected C-14 content for AA-12623 (Mich. Inv. 3311; P. Mich. xv 720) a papyrus of 308 AD is .8345 and the test was performed in 1994, a difference of 1,686 years. So far our equation looks: $1686 = 18985 \text{ of } \text{Log } x/.8345$; solving for x, we have $x = 1.0238$. This value represents the initial C-14 content for Papyrus and is about 2.4% higher than that of the standard.

As we move farther back into Time with the same type of material this consistency remains. AA-14736 (Mich. Inv. 1717; P. Mich. iii 190) is dated to 172 BC. This test was performed in 1994, a difference of 2,165 years. The two-sigma range for this is 170 BC-80 AD. This is closer than the result for AA-12623 but still misses the two-sigma range. The uncorrected measured C-14 content for AA-14736 is .7884, therefore: $2165 = 18985 \text{ of } \text{Log } 1.0251/.7884$. This time our initial C-14 content has increased by about one-eighth of one percent.

As we move farther back in Time we have AA-22269 (Mich. Inv. 3137; P. Mich. I 17) which is dated to 257 BC. This test was performed in 1997, a difference of 2,253 years. Now this date falls well within the two-sigma range of 390 BC-30 AD, at about 30% of two-sigma. The uncorrected C-14 content is .7785 so we have: $2253 = 18985 \text{ of } \text{Log } 1.0231/.7785$. This time our initial C-14 content decreases by less than one-fourteenth of one percent from 1.0238. These results indicate that the Tree-rings yield inconsistent results for Papyrus. Yet the initial C-14 content of Papyrus is consistently 2.4% higher than that of the standard as is evidenced by our initial C-14 contents of 1.0238, 1.0251, and 1.0231. The maximum variance of this constant is only one-fifth of one percent ($1.0251-1.0231 = .0020 = .2\%$). This is a metabolic constant and shows that