THE NEW GRONINGEN ^{14}C DATA BASE

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Since 1982, we have set up a database system that contains information on all ^{14}C samples measured in Groningen since 1953. The system consisted of a homemade program (partly in Machine Code) running on an Apple PC. This data base had an important disadvantage: the program itself was inaccessible, and exchange of output with other laboratories was, in practice, very difficult. Therefore, the system was transferred to a modern standard computer and programming language.

The data were successfully transferred (via the RS-232 interface) from the Apple to an Olivetti M290 (AT compatible) computer, equipped with a 40 Mb hard disk, a 3.5" high-density floppy disk drive and a 40 Mb tape streamer.

The new database program was completely written in Turbo-Pascal, using the Turbo-Pascal Database Toolbox. The program features versatile search routines. The output can be directed to either screen, printer or file. At present, four types of date lists can be selected: 1) the *RADIOCARBON* date list; 2) the HLF data transfer format; 3) a summary listing; 4) the IRDB format. Adding additional date lists to the program is straightforward, facilitating exchange with other laboratories or users.

The Groningen data base contains 17,000 records at present (September 1990) and is growing at a pace of about 1000 per year.

SEPARATION AND CHARACTERIZATION OF COLLAGEN-DERIVED PEPTIDES AND AMINO ACIDS

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The dating of low collagen and/or heavily contaminated bone is still problematic. One approach to a solution is the isolation and purification of collagen-derived specific peptides and amino acids. The enzymatic cleavage of collagen by means of collagenase produces a mixture of many small peptides, some of which have a very high collagen specificity. Subsequent reversed-phase and ion-exchange chromatography enables separation of hydrophilic and hydrophobic peptides, and isolation of specific tripeptides like GlyProHyp. The described HPLC techniques can be useful in two ways: 1) analytical, to assess the chemical intactness of collagen samples and 2) preparative, to isolate specific fractions of the mixture. The developed preparative approach will be described in the context of the need to balance increased specificity against sacrifice of yield.