

Plain English summary

Soil structure is an important property which affects water infiltration and storage, soil oxygen content and root growth patterns. It has typically been assessed using subjective description techniques, such as that contained in SOILpak. Such assessments are appropriate for general indications of structural condition, but are not precise enough for use in scientific models which attempt to predict processes such as water uptake by roots, or water infiltration rates. A computer program was developed in the mid-1990s to analyse images of soil samples that have impregnated with fluorescent resin, and to numerically estimate the amount, size and shape of soil pores and soil solids. Data from these analyses are more useful for scientists, as they can be used in predictive models. The computer program developed in the mid-1990s, however, could only be run on Macintosh computers, which limited the potential usage of the program by researchers. This project sought to convert the original program into one which could run on any personal computer (PCs). This has now been achieved, with the new program, *Solicon-PC*, now ready for release. It contains all the analytical features of the original program, plus some new analyses, and is much faster in operation and easier-to-use than the original version.