GENETICALLY MODIFIED ORGANISMS (GMOs) IN CONTROLLED ENVIRONMENTS - WORKING WITHIN THE LEGISLATION

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In recent years GM research in plants and other organisms has been the focus of a great deal of scientific endeavour. Developmental advances in gene transfer technology have enabled the rapid generation of large populations of GM plants conferring a wide range of modified traits. In addition, the use of alternative GM vectors, such as viruses, as a means of gene transfer in plants has also increased. Though reports are limited, several GM fungi species have also been generated, with particular containment problems of their own.

The rapid-scale up that has occurred in this period, from the early experiments where a limited number of experimental plants were generated and monitored *in vitro,* to the recent production of many thousands of plants for field scale assessments, has presented a number of technical, as well as legislative, problems.

Undoubtedly, for rapid, accurate and repeatable data on the performance, effects and safety of GM organisms, the importance of reliable growth conditions and containment cannot be over-emphasised. The provision of facilities to enable such research was initially the adaptation of existing growth room/glasshouse amenities, but in recent years custom designed and built complexes have been constructed. However, the rapidly changing scientific base necessitates that maximum flexibility of design and operation be built-in at an early stage.

Using, as a background, the design, construction and operating procedures of a new glasshouse/controlled environment/ laboratory facility at SCRI, progress and problems associated with working within GMO legislation will be outlined.