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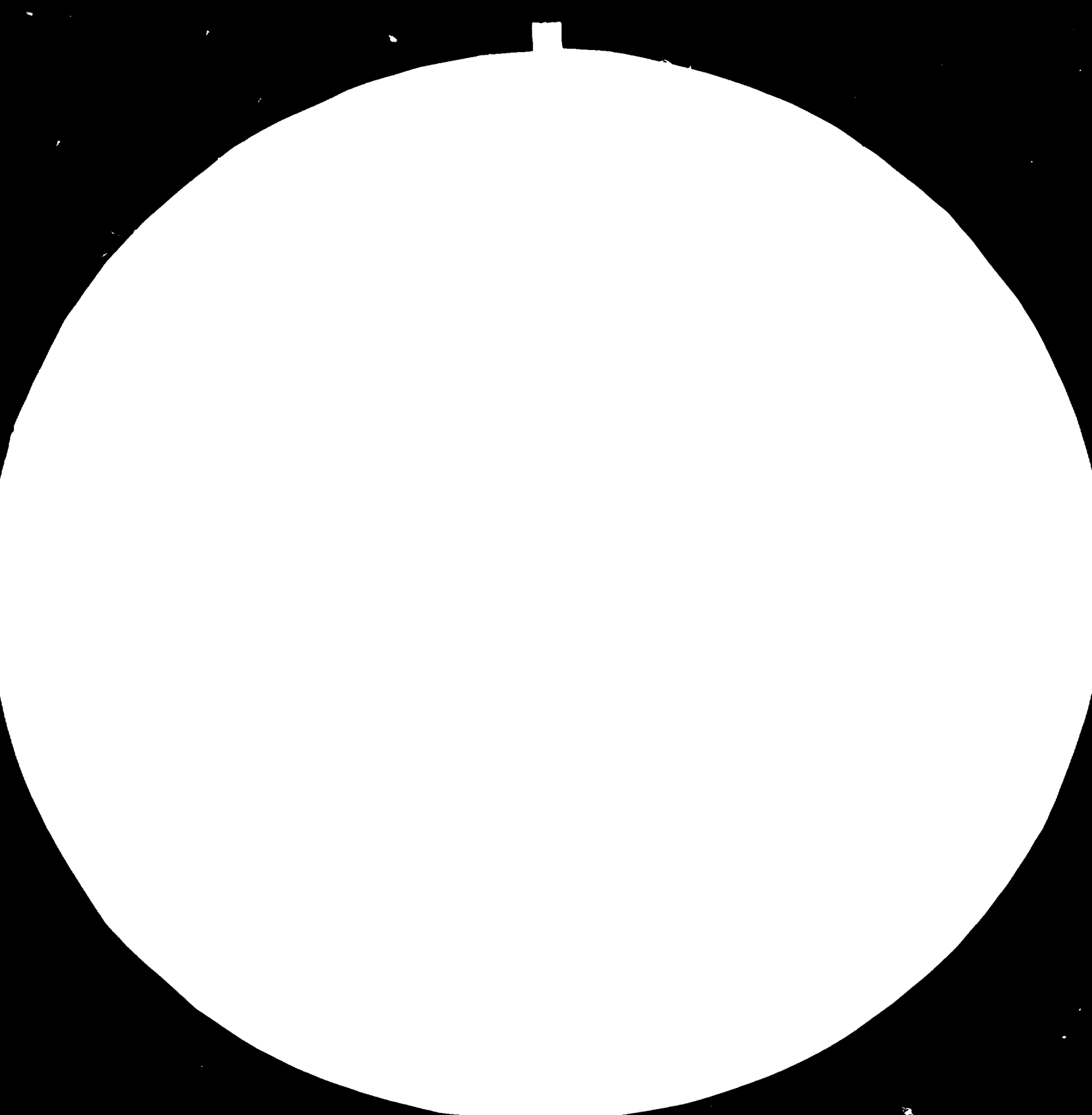

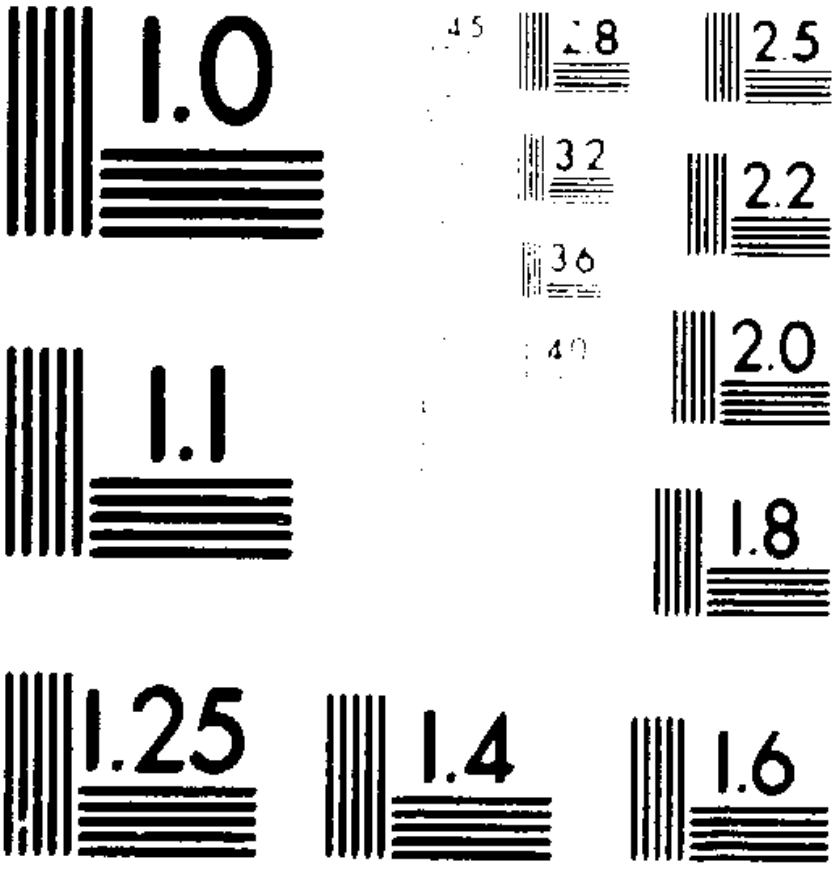

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14260

Recombinant DNA work in Zimbabwe

Like most other developing nations, Zimbabwe is only in the early stages of work involving recombinant DNA. A start, however, has been made in the laboratory of Dr C.J. Chetsanga in the Department of Biochemistry at the University of Zimbabwe. In view of adverse conditions which include difficulty of obtaining supplies and the almost impossible task of obtaining sophisticated pieces of equipment, it was decided to work with the M13 system. Briefly, with this system plaques of E. coli cells harbouring recombinant M13 bacteriophage can be distinquished from nonrecombinats on the basis of colour. Colourless or white plaques indicate recombinant phage into which a gene has been cloned whereas the blue ones are formed by lysed E. coli cells containing M13 phages that are nonrecombinants. An added advantage of the M13 system is that the phage is single stranded in its nonreplica tive form. This greatly simplifies matters when the phage DNA has to be sequenced using Sanger's dideoxy method.

The initial stages of the work in Dr Chetsanga's laboratory include an attempt to clone the gene for rat liver glutathione transferase. This enzyme is involved in the metabolism of some carcinogenic alkylating agents and other pharmacologically active compounds. An attempt is being made to clone the gene for glutathione transferase into E. coli JM105 strain.

It is envisaged that once the problems associated with setting up this type of work have been sorted out, more challenging projects can be attempted. Specifically, it is hoped that we might be able to look at the gene system responsible for nitrogen fixation in the Rhizobium species of leguminous plants. Interest in this kind of work has been expressed by people in agricultural research in Zimbabwe. We, therefore, hope that work on nitrogen fixation would be a cooperative venture.

In an endevour to train Zimbabwean scientists to acquire expertise in recombinant DNA work, we are hoping to persuade CCGENE to arrange for a practical workshop on recobinant DNA techniques to be held at the University of Zimbabwe sometime in 1987. We hope that this will bring to Zimbabwe people with

invaluable experience.

In addition , we are also planning to invite workers with suitable expertise to come to Zimbabwe for periods of various lengths. We see this as an ongoing exercise to be done as and when convenient arrangements can be made.

We would like to offer our invitation to scientific colleagues in Africa to come and share some of the experience that we already have . Senior scientists could arrange to stay for brief periods of say up to six months. We also would welcome postdoctoral workers and postgraduate students from sister countries.