sexes of laboratory animals. There is, however, indication that laboratory rats acquire a tolerance to "1080" by the ingestion of sublethal doses over a period of from 5 to 14 days. This factor might lower effectiveness of this poison when premises are retreated after a short interval of time, but cessation of dosing for a period of 7 days caused laboratory rats to lose this tolerance.

Caged wild Norway and black rats also developed a gradually increasing aversion to the material when offered as water-solutions, but here again this aversion was not sufficiently pronounced to disrupt actual operational procedures. As a matter of fact this material exposed as a water solution has given results in rat control in Southern States seldom if ever matched in thoroughness by previously used poisons or other control methods. Similarly effective control has been recorded when the material has been used on grain baits against such field rodents as Beechey's and Fisher's ground squirrels in California, Richardson's ground squirrels in South Dakota, black-tailed, Gunnison and Zuni prairie dogs in Colorado, and the Norway, black, Alexandrine and frugivorous rats, as well as the house mouse, in the South.

With a material as new as "1080" much remains to be learned regarding its worth and hazards. Little is known of its effect on creatures other than those it is aimed to control. Its high toxicity to domestic dogs and cats precludes its use where those pets have free range, and by inference one must conclude its action will be severe on beneficial wild predators and fur bearers were the material ill-advisedly exposed. Of still greater importance is the possible danger to operators who may use it carelessly, no effective antidotes having yet been developed.

It is therefore more as an expression of caution and withheld judgment than of an announcement of accomplished fact that this statement has been prepared. Research personnel of the Fish and Wildlife Service to whom major credit should be given for the development and demonstration of the effectiveness of "1080" are continuing their studies in collaboration with various other Federal, State and local agencies and the Armed Services here and abroad to the end that the action of this material may have the fullest scrutiny before it is adopted for widespread use.

In conclusion it seems eminently fitting that recognition for the obtaining and "screening" of "1080" from a multitude of other potential rodenticides being done under contract from the O.S.R.D. should be given to Dr. Ray Treichler of the Economic Investigations Laboratory at the Patuxent. Further demonstration of toxicity to caged wild rodents and the immediate direction of the "search for new rodenticides" project of the Fish and Wildlife Service, of which the O.S.R.D. contract has become a part, has been an accomplishment of Justus C. Ward of the Denver Laboratory. To D. A. Spencer of the same staff goes credit for able demonstration of the utility of the material against western field rodents, and the organization of field tests generally, while H. J. Spencer, a field representative of the laboratory, is in large part responsible for the development of this poison in water solutions as a raticide in typhus areas of the South.

The manufacture of "1080" is still on a limited scale and for the experimental work under way. Indications are that, because of its high toxicity, the material will become, under volume production, a relatively cheap poison. At the present time, the many unknowns regarding it and the restricted basis on which it is being produced preclude the use of "1080" by the public or even by rodent control operators generally. It is reasonably certain that the discovery of "1080" assures this nation of a highly effective economic poison which can not be denied this country through any future interruptions of world trade.

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PECTIN INTRAVENOUSLY

IN a recent paper, Baier, Bryant, Joseph and Palmer[1] stated that intravenously injected pectin is not accumulated in the liver as it is easily hydrolyzable and thus differs fundamentally from other plasma substitutes, such as acacia. Previous studies of Hueper[2] and Popper, Volk, Meyer, Kozoll and Steigmann,[3] however, have unequivocally shown that pectin, even when partly degraded, is apparently retained in various organs (liver, kidney, bone marrow, spleen, arteries) and gives rise here to foam cellular formations, hyaline necroses, foreign body giant cells and calcium incrustations. Such observations have been made in experimental animals as well as in men to whom pectin solutions were given for therapeutic reasons. Intravenously injected pectin is therefore not as harmless and fundamentally superior to other macro-molecular colloidal plasma substitutes as this may appear from the statement of Baier, Bryant, Joseph and Palmer.

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1 W. E. Baier, E. F. Bryant, G. H. Joseph and G. H. Palmer, SCIENCE, 101: 670, 1945.
2 W. C. Hueper, *Arch. Path.*, 34: 883, 1942.
3 H. Popper, B. Volk, D. D. Meyer and Fr. Steigmann, *Arch. Surg.*, 50: 34, 1945.