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High oil content in Russian material is probably approaching the maximum attainable. Improved production in future must be through increased seed yield. Many in this room believe such increase can be obtained by utilization of heterosis and, more specifically, through the use of cytoplasmic male sterility and fertility restoring mechanisms. Several sources of fertility restoration have been located. There is need for exchange of these between scientists, and for determination of their similarities or differences in genetic control. The cytoplasmic male sterility being employed at present appears mainly, or solely to be the French source. Further sources of cytoplasmic sterility are desirable to avoid hazards paralleling the southern corn leaf blight epidemic in the U.S. in 1970 which could be attributed to the widespread use of a single source of cytoplasm. In short, the task ahead is an intensified effort to find more and better sources of both cytoplasmic male sterility, and fertility restorers. At the same time the method of Pustovoit, which many of us would term recurrent selection, must be recognized. Its success in improving both oil content and seed yield cannot be disputed.

The other main area which requires continuing and increasing attention is the breeding for resistance to disease. We have heard frequent references to Plasmopara, Sclerotinia, Botrytis, Verticillium and others. Losses, while not clear, are no doubt substantial and occur annually. Naturally breeders believe the soundest approach to controlling disease is the development of resistant varieties. Control by fungicides, particularly systemic fungicides must not be overlooked. Insects at present pose little problem except in the southern U.S.

Genotype x environment interactions have been noted. As sophistication in breeding increases development of varieties for specific areas will come.

Looking to the more distant future, increasing attention to oil quality may be required. Nutritionists state that fat consumption is the first item to increase when diets improve in developing nations. Markets for specific types of oil could develop ; for example tropical countries may wish oils which differ from the accepted standards in temperate climates. Lastly, and likely sooner than many of us believe or realize, protein quality and its use in human nutrition will require increased emphasis as the population explosion over the world continues.