

obviously they lose accuracy the further back one goes, indicate that about 1830 the world population attained one billion souls. The population reached two billion around the turn of the century or 1905, and reached three billion about the middle of the century, 1950. Today the population is approximately three billion two hundred million and increasing rapidly, at about 55 to 60 million births over deaths per year, which is close to 7,000 births over deaths per hour. In the world as a whole it seems inexorable that we will reach this population perhaps not by the year 2000, but rapidly. Obviously this, as it stands now, presages this inexorable growth, and at our present standard of living, unless we increase our foods and supplies, the result will be twofold.

As you know, more than 65 per cent of the population of the world is in a chronic state of malnutrition. We, of course, on the North American continent, are the lucky ones and have a problem of overeating. We are probably the first people in history that have ever suffered from this problem.

The evidence is that the population of the world will certainly reach this level. It is doubling in somewhere between 28 and 35 years. Malthus in his article suggests that by the year 2026 we will have a population of 10,000 people per square mile of land surface, which is equivalent I might add to the population of Manhattan Island. I do not think this will happen within the next quarter of a century, but at the present rate of increase it is inexorable and will arrive probably in the next century. Perhaps we should not concern ourselves with this problem, but it is our problem. I should say that it does not make much difference whether it happens in 2026 or 2075 but if the population of the world increases to a concentration of several times that of China we will be confronted with a very terrible problem.

Of course the clothing, feeding and sheltering of these people is the major concern of the agricultural field and of the disciplines which are integrated to resolve the problem of agriculture.

I think it is also important for us to realize that during the past number of years agricultural science chiefly in North America has advanced further than in the preceding 10,000 years, and certainly has made a mark on the important species of life. I think we will have more than doubled our agricultural scientific progress in the next ten years over what we have achieved in the last 100. I believe we will be able to do this, but it is important the agricultural science not be impeded in this endeavour, no more than medical science should be impeded.

I think I have outlined the point I was trying to make. I am not prepared to state that November 13 will be Doomsday. This is obviously a catch title that Forester, Mora and Amiot used. I do not think anyone doubts that we are confronted with a colossal problem. By the year 2000 for example we will have close to 400 million people in North America, counting Canada and the United States. This fact is virtually inexorable.

Mr. OTTO: Mr. Chairman, after reading this very well written article I must admit that the purposes of this committee in protecting wildlife, game and fish from toxic pesticides seems of small importance.

I wonder whether I may ask the president of the company or Mr. McDonald what is being done in the interests of safety in regard to testing pesticides and insecticides manufactured by this company? What percentage of your expenditures is directed toward testing in respect of safety precautions, and what percentage of your experimental budget is directed toward the developing of new and more powerful pesticides in order to increase the benefits to our agriculture economy?

Mr. STOVEL: The answer is that in broad terms we in Cyanamid of Canada are spending this year perhaps of the order of \$200,000 on these various technical ends of the pesticide area. Of this roughly about \$100,000 is spent to