In the 1950’s the Haber process started to be used in the agricultural industry to create the chemical fertilizers used today. The Haber process has not only changed the way the agricultural industry but also the history of the human race. Dr Vaclav Smil said “The expansion of the world’s population from 1.6 billion people in 1900 to today’s six billion would not have been possible without the synthesis of ammonia”.  

Soil can become acidified by the over use of chemical fertilizers. The acidification of soil occurs when the levels of pH in the soil rapidly decrease due to the increased leaching of nitrates. Chemical fertilizers can also cause eutrophication which occurs when the waste runoff from chemical fertilizers can spill into waterways. Eutrophication can then lead to the rapid growth of algae which in turn could seriously harm the environment by killing native animals and destroying their habitats. Another problem with chemical fertilizers is that they contain large amounts phosphate which is a non-renewable resource. Ninety per-cent of phosphate that is extracted from the earth is essential for modern food production and because of this phosphate reserves are expected to run out in 50-100 years.  

Chemical fertilizers are used to improve the mineral concentration in soil which in turn increases the amount of food produced around the world. Introducing chemical fertilizers on crops in known to increase yield production by over 50-100% which then results in a sustainable global food industry. Since individual farms can produce an average yield of 110 acres food prices around the world have rapidly decreased. This means food is more readily available for poorer countries and people leading to a decrease in world hunger. Chemical fertilizers are also cheaper than organic fertilizers as there is less labor intensive work needed.

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2 Cordell, D 2011, The Story of Phosphorus, Oxford University Press, Melbourne, p. 56

3 ibid., p. 59.


5 Cordell, op.cit., p. 63.
Reference List

