EDITORIAL COMMENT:

Plants Do Not Respect Political Boundaries

Many species of plants naturally invade what to them are foreign environments and have survived, usually as weeds, in their new homes. But it is not only weeds — aggressive species — that interest us, for example when some of them become serious pests in our gardens and on our farms, especially in the temperate zones. It is also the legal interference, in some countries, to the collection by scientists of potentially new domesticates or valuable germ-plasm for genetic improvement of established crop species, that must attract our attention for consideration and, it is hoped, action. These laws prohibiting the free exchange by qualified specialists of germ-plasm — laws originating from political or nationalistic mentalities — can significantly hinder scientific research, especially when improvement of food plants is concerned. This can be much to the detriment of human progress, particularly in third-world countries.

Appropriate international organizations should ask countries to restudy these laws; they are more numerous than is usually believed. Even today, tales about the so-called 'British steal' of seeds of *Hevea brasiliensis* over a century ago are rife in some circles and are repeated *ad nauseum* in books. The story, in fact, is totally unfounded. There was in 1876 no law in Brazil prohibiting the exportation of rubber seeds, and several earlier collections had been unsuccessful before Sir Henry Wickham's successful attempt. The seeds were collected, packed, and put on board a steamer in the Amazon with no secrecy. The cargo was passed by customs in Belém do Pará by officials who, recognizing the delicacy of the numerous plants on board (for there were a number of horticultural species as well as seeds of the main Rubber plant, cooperated with dispatch to avoid degeneration of the delicate plant material on the voyage over the Atlantic to England.

No other plant has so drastically changed the whole world in one century as has *H. brasiliensis*: the taking of it from the jungles, the establishment of scientifically-managed plantations, and the exceptional improvement of the crop-tree itself, have been among the greatest scientific, economic, and sociological, accomplishments of the exchange of plants between the two hemispheres.

This transfer of *H. brasiliensis* from the wild to plantations led to several achievements of great significance to human society. The extraordinary agro-botanical advances made in the plantations assured the world of a constant supply of a high-quality product at relatively low cost, thus making possible the development of motor cars and other modern transportation and many industries. Furthermore, when plantation rubber satisfied the world's demand for rubber, the primitive forest industry practically disappeared, and thousands of defenceless Amazon Indians were saved from uncontrolled exploitation and subhuman working conditions in the jungles, malnutrition, untreated diseases and often death from torture and murder, in numerous parts of Amazonia.

A major factor in the history and success of modern agriculture has been the exchange of economic plants. An excellent example is Brazil's flourishing agricultural programme based primarily on imported plants: Coffee (*Coffea arabica*), originally from Abyssinia; Sugar-cane (*Saccharum officinarum*) from Southeast Asia; Rice (*Oryza sativa*) from India; the African Oil-palm (*Elaeis guineensis*); Cacao (*Theobroma cacao*), from the Amazon of Ecuador and Colombia; and Soy Bean (*Glycine max*) from China.

It is high time that international organizations of various types begin to try to break down the attempts to make plants limited to political boundaries. Science, in the service of Mankind, should not be hindered by restrictive laws which, if they ever were wise and useful, are today a hindrance to progress and represent defeatist attitudes towards the protection and use of biological diversity. At present, restrictive laws may even deprive Mankind of the discovery of valuable economic plants which Nature, not political units, have given to the human race.

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