

SYMPOSIUM ON VECTOR RELATIONSHIPS AND THE DEVELOPMENT OF EPIDEMICS

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Introductory Remarks

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Of the disease organisms of plants and animals that are spread by a vector, by far the largest groups are the plant viruses and one large group of animal viruses known as arboviruses. Other viruses are spread between highly mobile individuals in the animal world and phages in the fluid environments where bacteria, blue-green algae, and mycoplasma prosper.

The precise prediction of epidemics of diseases incited by plant and animal viruses transmitted by vectors is very difficult. The severity of an epidemic is related to the interactions between vector populations, variability of the virus and vector, availability of alternate hosts of both virus and vector, the distribution and proximity of alternate hosts, environmental factors, and on the nature and density of the population involved. Describing and adequately measuring one of these factors is difficult, but when they are all considered together it is impossible to

quantify their collective effect on disease progress. One of the chief problems is that this interaction between virus vectors, hosts, etc., even in its simplest form, displays an extraordinary and stubborn refusal to conform to a constant pattern. Thus, with interactions occurring in countless ways it seems clear that no possible method of analysis, with the information presently available, can present a complete and consistent picture of the entire situation. Some progress has nevertheless been achieved by isolating and concentrating on certain facets of the problem, such as vectors, while excluding or ignoring others.

This symposium brings together individuals who will present up-to-date information on vector dynamics and epidemics for plant viruses and animal arboviruses transmitted by mosquitos and ticks.