

THE FEDERAL SCIENTIFIC CENTER ON THE EAST ASIA TERRESTRIAL
BIODIVERSITY FEB RAS, RUSSIA
ENGINEERING RESEARCH CENTER OF CHINESE MINISTRY OF EDUCATION
FOR EDIBLE AND MEDICINAL FUNGI, CHINA

The 1st International Conference on

NORTH EAST ASIA BIODIVERSITY

SEPTEMBER 17–21, 2018
VLADIVOSTOK, RUSSIA



BARLEY STRIPE MOSAIC VIRUS (*VIRGAVIRIDAE*, *HORDEIVIRUS*) AS BIOLOGICAL THREAT FOR AGRICULTURAL CROP IN THE FAR EAST

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The grain production is the basic and obvious economic purpose of agriculture. Rice, oats, winter crops, maize (grain and feed), spring wheat and spring barley are grown in Russian Far East regions. Maize, spring wheat and spring barley are dominant crops in the structure of the cereal production. So, the amount of areas under crop of maize has increased during the last fifteen years from 3.11 thousand hectares in 2005 to 38 thousand hectares in 2018 only in Primorye Territory.

It is well known the barley stripe mosaic virus (BSMV) (*Virgaviridae*, *Hordeivirus*) is ubiquitous. It is very strong disease that takes damage of cereals crop and decrease of its yield. Wheat, barley, wild oats are its natural hosts. Our researches has shown that BSMV is widely distributed in the Far East. For example, in Primorsky krai the occurrence of BSMV was 3 % for the spring wheat and the spring barley even in the epidemiologically successful years. It has been established that winter crops are more sensitive to this infection than spring crops. In addition, in 2014 we found a disease of corn which was called «mosaic chlorotic stripe disease» and we determined the infectious nature of the pathogen. In further researches we proved that the disease is etiologically associated with BSMV. Thus, we first showed that corn is affected by BSMV in vivo and can be attributed to host plants of BSMV.

We conducted work to identify susceptible host plants of this virus. It was shown that this virus affects wild monocotyledonous plants – *Elytrigia repens*, *Setaria pumila*, and on some wild dicotyledonous plants, for example *Chenopodium quinoa*. Taking into account that BSMV is transmitted by seeds and mechanical damage, it persists for a long time in the vegetative parts of infected plants, we can be said that these plants are excellent source of this infection. BSMV has been classified as a quarantine pest in the USA and Canada. The European and Mediterranean Plant Protection Organization introduced this virus into the list recommended for quarantine regulation (List A2).

The prevalence of wild host-plants of the virus and the level of contamination of cereal crops in the Far East could be causes of virus outbreaks. Under certain conditions this dangerous virus can become a threat not only to producers of agricultural products, but also to plants of phytocoenosis among of them there are unique endemic plants. Thus BSMV is a dangerous pathogen to the biological diversity of the natural recourses in the Far East.