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Titolo	Protection Strategy against Spruce Budworm
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2020
ISBN	3-03928-097-X
Descrizione fisica	1 online resource (220 p.)
Soggetti	Biology, life sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

Sommario/riassunto

Spruce budworm (Choristoneura fumiferana (Clem.)) outbreaks are a dominant natural disturbance in the forests of Canada and northeastern USA. Widespread, severe defoliation by this native insect results in large-scale mortality and growth reductions of spruce (Picea sp.) and balsam fir (Abies balsamea (L.) Mill.) forests, and largely determines future age-class structure and productivity. The last major spruce budworm outbreak defoliated over 58 million hectares in the 1970s-1980s, and caused 32-43 million m3/year of timber volume losses from 1978 to 1987, in Canada. Management to deal with spruce budworm outbreaks has emphasized forest protection, spraying registered insecticides to prevent defoliation and keep trees alive. Other tactics can include salvage harvesting, altering harvest schedules to remove the most susceptible stands, or reducing future susceptibility by planting or thinning. Chemical insecticides are no longer used, and protection strategies use biological insecticides Bacillus thuringiensis (B.t.) or tebufenozide, a specific insect growth regulator. Over the last five years, a $30 million research project has tested another possible management tactic, termed an 'early intervention strategy', aimed at area-wide management of spruce budworm populations. This includes intensive monitoring to detect 'hot spots' of rising budworm populations before defoliation occurs, targeted insecticide treatment to prevent spread, and detailed research into target and non-target insect effects. The objective of this Special

Issue is to compile the most recent research on protection strategies against spruce budworm. A series of papers will describe results and prospects for the use of an early intervention strategy in spruce budworm and other insect management.

2. Record Nr. UNINA9910372786003321

Autore	Okubo Masaaki
Titolo	Plasma Processes for Renewable Energy Technologies
Pubbl/distr/stampa	MDPI - Multidisciplinary Digital Publishing Institute, 2020
ISBN	3-03921-973-1
Descrizione fisica	1 online resource (118 p.)
Soggetti	History of engineering and technology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	The use of renewable energy is an effective solution for the prevention of global warming. On the other hand, environmental plasmas are one of powerful means to solve global environmental problems on nitrogen oxides, (NOx), sulfur oxides (SOx), particulate matter (PM), volatile organic compounds (VOC), and carbon dioxides (CO2) in the atmosphere. By combining both technologies, we can develop an extremely effective environmental improvement technology. Based on this background, a Special Issue of the journal Energies on plasma processes for renewable energy technologies is planned. On the issue, we focus on environment plasma technologies that can effectively utilize renewable electric energy sources, such as photovoltaic power generation, biofuel power generation, wind turbine power generation, etc. However, any latest research results on plasma environmental improvement processes are welcome for submission. We are looking, among others, for papers on the following technical subjects in which either plasma can use renewable energy sources or can be used for renewable energy technologies: Plasma decomposition technology of

harmful gases, such as the plasma denitrification method; Plasma removal technology of harmful particles, such as electrostatic precipitation; Plasma decomposition technology of harmful substances in liquid, such as gas-liquid interfacial plasma; Plasma-enhanced flow induction and heat transfer enhancement technologies, such as ionic wind device and plasma actuator; Plasma-enhanced combustion and fuel reforming; Other environment plasma technologies.