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Biopesticides use on cotton and their harmful effects on human health & environment

Cotton crop is infested with different kinds of insects in the production cycle. Jassids, thrips, aphids and whiteflies are among the sucking pests, and bollworms (American and spotted) and Spodoptera caterpillars attack leaves and bolls. Bollworms can cause up to 40% - 50% crop losses in severe incidences.

Research Article **Published Date:- 2022-07-19**

Association between clinical forms of Leprosy and contacts with the vaccination state with BCG in five endemic municipalities in the Brazilian Amazon

Introduction: The World Health Organization (WHO) strategy for leprosy control from 2021 to 2030 focuses on interrupting transmission, reducing autochthonous cases to zero, and using a safe and effective vaccine and chemoprophylaxis. In 2020, 127,396 new cases were registered in the world, 19,195 new cases in the Americas, and, of these, 17,979 cases in Brazil, about 93.66% of the total in the Americas. Brazil is classified as a country with a high burden of the disease, occupying the 2nd place in the world, behind only India (WHO, 2020). Análise do período de 2010-2015 em publicação recente9, apresenta as seguintes cidades no estado do Pará nas quais se observou maiores taxas de incidência (detecção): Marituba, Belém, Marabá, Parauapebas e Altamira [9].
Material and method: This is an analytical retrospective study carried out in a database - Epi-Info resulting from records of Surveillance and Seroprevalence actions in five endemic municipalities for leprosy located in the Southeast and West of Pará. The following variables were analyzed: age, sex, Clinical Classification, vaccination status with BCG, and the result of the search for IgM antibodies against PGL-1 of Mycobacterium leprae by the “In house” ELISA technique.
Results: We evaluated 1551 records examined in the laboratory from 2014 to 2016, which were classified into 123 Multibacillary -MB patients (123/1551 = 7.93%); 71 Paucibacillary-PB patients (71/1551 = 4.57%); 451 Intradomicilliary Consanguineous Contacts - CCOSI (451/1551 = 29.07%) and 906 Non Consanguineous Contacts - CNCOS (906/1551 = 58.41%). 57 MB patients (13.47%), 13 PB patients (3.07%), 133 CCOSI (31.44%) and 220 CNCOS (52.00%) were positive for PGL-1. The correlation of the Classification with the vaccination status showed 57 MB patients without any BCG (57/125 = 45.6%) and only 3 patients with two doses of BCG (3/125 = 2.4%); 17 PB patients without any dose of BCG (17/69 = 24.63%); 80 CCOSI without any BCG (80/455 = 17.58%) and 171 CNCOS (171/906 = 18.87%). The odds ratio (OR) in the analysis between unvaccinated MB patients compared to CCOSI was statistically significant (OR = 14.25; p ? 0.0001). The study shows the importance of using the BCG vaccine in healthy contacts of patients with leprosy, as it shows the probability of unvaccinated individuals being 14.25 times more likely to become ill with Multibacillary forms compared to CCOSI. In addition, the BCG vaccine has been in use for 80 years and is the only vaccine that we can use in leprosy control programs.
Conclusion: Although the leprosy epidemiological data analyzed recently (2010 - 2015) show a downward trend in the main indicators in Pará, such as the detection of new cases and prevalence, the endemic municipalities are still classified as hyperendemic for the population under 15 years of age and This proves that Surveillance is essential, as well as BCG vaccination according to the Ministry of Health Standards.
