Gmail **Aubrey Moore <aubreymoore2013@gmail.com>**

Re: PESC presentation for DOI

1 message

glenn dulla <gfjdulla@gmail.com> Sun, Sep 25, 2022 at 5:50 AM
To: Aubrey Moore <aubreymoore2013@gmail.com>
Cc: Roland Quituqua <quituguarj@triton.uog.edu>, Glenn Dulla <glenn.dulla@doag.guam.gov>

Current status on Guam
-LFA has been documented to be in every village on Guam at various sizes and densities of infestation, potential impacts to tourism because it is found in tumon and other tourist areas/beaches
-LFA identified at Ports of Entry, some in critical loading areas with direct transport to neighboring islands
-availability of pesticides remain limited and preferred chemicals can be cost prohibited
-spread of LFA encouraged with lack of public green waste management system
-Current ecological studies on Guam are measuring LFA impacts on invertebrate diversity in conservation and public lands (Ross' work)
-Social and economic impact are present on Guam, but are not being tracked or quantified in any meaningful way
-Short term federal funding cover focused management in conservation areas and ports of entry
-Almost no funding input from local government, shit I dont think they even care... this is an optional point to include
-Economic impacts of invasive fire ants: estimated US$5.6 billion annually is spent on crop/livestock loss, management expenses and medical expenses

Impacts of little fire ants (taken from a SPREP publication, my bullet points for presentation in bold)

(-Human health concerns, LFA stings cause painful welts and produce varying allergic reactions. Heavily infested structures and properties become uninhabitable without treatment. Santa Rita child sent to hospital for multiple sitting and severe allergic reaction.)
In the Pacific, people, agriculture and the environment are intimately inter-connected. Dwellings and urban structures are located in close
proximity to the natural environment and agricultural areas (especially subsistence agricultural areas). Little fire ants profoundly affect
each of these sectors. They are a serious pest of dwellings and urban structures (Fernald 1947, Fabres and Brown jnr 1978, Delabie 1995) and are very difficult to exclude. They infest houses, foraging through homes, stinging people, children and domestic animals. Their stings affect people
to varying degrees from causing a painful rash to extreme reactions causing large raised welts.

(Animal health concerns, stings to animal eyes cause a clouding or keratopathy leading to blindness)
In external areas around dwellings, they will nest in vegetation as well as on the ground. However, they are easily dislodged from their arboreal homes, and will fall on unsuspecting people and domestic animals. When they become trapped in clothes or the fur of animals, they become alarmed and the alarm pheromones emitted cause all nearby ants to sting in unison. In areas infested with little fire ants domestic animals are commonly observed with clouded corneas. This condition is known as tropical keratopathy or Florida Spots. It is thought to be caused by entry and growth of mycobacteria within the corneal layers resulting from a physical injury to the eye (Gelatt 1999). There is lot of anecdotal evidence suggesting that little fire ants cause this condition, and this has recently been confirmed by an epidemiological study in Tahiti (Theron 2005).

(Ecosystem concerns, LFA is highly competative and displaces other insects and vertebrates in the infested area.)
In natural ecosystems, little fire ants displace other ant species and predate on insects and vertebrates. Often other animals sharing the same habitat simply relocate to uninfested areas to avoid the discomfort of being constantly stung and the reduction in prey items. Although there are few studies of the total ecological impacts caused by this species, there are numerous reports describing impacts on individual species or species groups (Clark et al. 1982, Lubin 1984, Jourdan 1997, Wetterer et al.1999, Armbreght 2003, Le Breton et al. 2003, Walker 2006, Ndoutoume-Ndong and Mikissa 2007, Beavan et al. 2008, Vonshak et al. 2010).
(Economic impacts, no real agricultural concerns that I am aware of but, **LFA nurtures plant pest populations in mutualistic relationships and is a nuisance to farm workers)**
Agricultural systems are impacted in two main ways by little fire ants. First, the mutualisms between Homoptera and

ants causes explosions of plant pests (Spencer 1941, Delabie 1988, 1990, Delabie and Cazorla 1991, de Souza et al. 1998, Souza et al. 2008, Fasi et al. 2012). This dramatically decreases plant health and productivity. Secondly, the presence of little fire ants makes plant husbandry and harvesting much more difficult. Agricultural workers are constantly stung, making them reluctant to operate in infested locations (Fabres and Brown jnr 1978).

On Sat, Sep 24, 2022 at 10:36 PM Aubrey Moore <aubreymoore2013@gmail.com> wrote:

> Please have a look at the draft PESC presentation for DOI and let me know what you think. I need help with a short blurb on LFA and some ideas for "Next steps".
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> Remember we only have 5-7 minutes, so we can't go into detail on anything.
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> All the best,
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> - Aubrey

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