

Press Release

New app helps California strawberry growers fight off the hungry lygus bug

The CA Strawberry Commission launches a new application to advise farmers on best practices to manage the lygus bug in their field, increasing profits for growers.

San Luis Obispo, CA – September 2, 2019.

[Summary] SLO TRIBUNE | AGRICULTURE – The California Strawberry Commission, in collaboration with Cal Poly’s Digital Transformation Hub (powered by Amazon Web Services), has released an Amazon ‘Lex’ powered chatbot called IStrawberry that provides strawberry growers with personalized advice in a natural conversational style on how to address lygus infestations. The grower puts in information such as farm location and observations and the chatbot provides a personalized lygus bug management plan. This helps the grower to improve crop yields by reducing lygus damage while increasing profits. The current version of the chatbot supports English with support for Spanish speakers coming soon.

[Opportunity/problem] Until today, strawberry growers in California haven’t had easy access and a centralized place to find out how to tackle the lygus bug problem that infests their fields. Lygus bug damages the seeds on a young strawberry and causes it to grow irregularly. Irregular shaped fruits are not marketable because of consumer quality standards. The lygus bug problem is estimated to cause somewhere between \$100 and \$200 million in economic damage to California’s \$3.1 billion strawberry industry. A strawberry grower could experience a loss of 10-20% in their marketable fruit if lygus bug is present in their field. If an area is infested with lygus bugs it becomes a breeding ground and a threat to nearby strawberry fields and other crops such as lettuce, celery, cabbage, and more. Moreover, there are multiple lygus bug species that are a threat and some are more resistant to certain pesticides than others meaning that a simple ‘spray and pray’ strategy won’t work long term. Strawberry growers throughout the state need a regional management approach. Farm specific lygus bug management coaching with coordination among neighbors and pest control advisors (PCA).

[Approach/Solution] Strawberry growers can now simply send a text message to the chat bot if they think that they may have a lygus bug problem or simply want to learn more about the pest. The grower, or their PCA can input their contextualized information including location of the farm, and guided observations that helps the user to confirm a pest infestation. The chatbot will then provide treatment and mitigation recommendations to address the lygus bug issue based on industry best practices given the lygus bug scenario e.g. number of lygus bugs present, maturity of the insect, and more. The more that growers and PCAs use the application the smarter and more personalized the recommendations become leading to more effective lygus bug treatments and better industry-wide coordination. This improves yields and increases profit for the grower. Experts think that over the long term, lygus bug infestations can be predicted in advance and proactive measures can be taken to stop the lygus bugs in their tracks before the pest begins to cause significant damage.

[Leader quote here]

“The technology is impressive and it didn’t take long to develop the chatbot. We’re excited for its potential impact on the strawberry industry. AWS Digital Transformation hub was a pleasure to work with”

[Customer experience] The strawberry grower and pest control experts can text 555-555-5555 to start a conversation with the IStrawberry chatbot. The chatbot will ask the user a series of question in a natural conversational format. Questions include location of the farm along with visual aides to help the user confirm that they have a lygus bug problem and the stage of infestation. The chatbot then responds with detailed advice on how and when to use the lygus bug vacuum which is a treatment practice for dealing with lygus bugs. The user can also opt in to receive text reminders on when they should be using the bug vac based on field infestation stage and weather conditions.

[Customer quote] *"I heard about the chatbot on the Weekly Berry Digest and texted the number the next day after I saw something that looked like this lygus bug thing that everybody keeps talking about" Said Fernando Fresa, "I got a \$5 coupon to my local restaurant just for signing up. I put my information in and out popped a recommendation*

on how to deal with the lygus. I didn't have a pest control guy so the app connected me with one right there and I also got a discount on my first treatment bill. This year's crop has been the best ever. The app told me that if I didn't deal with the lygus that I may have lost 20% of my crop this year!

The California Strawberry Commission has committed to piloting the chatbot in the fall of 2019. To learn more about IStrawberry and how you can take part in the pilot, go to [INSERT FAQ (or main) WEBSITE].

Customer FAQ (grower)

Q: How is it going to help me improve my crop results?

A: Proper lygus bug management will decrease irregularly shaped fruit

Q: Can I speak Spanish to the chatbot?

A: Coming soon!

Q: Is there a cost to me?

A: No!

Q: Are there privacy concerns? Do you track my location or record my conversations?

A: The information you provide is recorded but will only be used to enhance your personalized pest management plan. We only record location data that you provide directly.

Q: Can I use this on my own phone? Do I have to use the app?

A: You may use the IStrawberry chatbot on any phone that can receive text messages. No additional app is needed

Q: Does it work offline?

A: Yes. However, you must be able to receive text messages.

Q: Does this report my data to the California Strawberry Commission or other growers? To a statewide database?

A: The California Strawberry Commission will use data provided to improve user experience. Data is not shared with other growers or state databases.

Q: What is the benefit of using it?

A: Better management of lygus bug

Q: Do I have to use this? What happens if I don't?

A: No, however we will not be able to provide you with a personalized pest management plan

Q: Where do I get help? What if I have questions?

A: You may call (831) 724-1301 or email info@calstrawberry.org

Stakeholder FAQ (Management, Staff, Community)

Q: How does the strawberry commission benefit?

A: We are able to provide our members with a valuable service to mitigate losses due to lygus bug damage

Q: What types of data is needed to make this app work?

A: Farm location

Q: How does the app provide personalized management advice?

A: Management plan changes based on farm location, time, and weather

Q: Where do the recommendations come from?

A: From a distillation of both published and on-going research

Q: Is this app compatible with different types of phones? And devices?

A: Yes. The chatbot can be accessed via SMS text messaging.