

SEASONAL WEATHER FORECAST & ITS EFFECTS TO AGRICULTURE FOR BELIZE

August to October 2018

Drought Warning
Drought Watch

LIVESTOCK	Zone	District	Possible Effects and actions to mitigate effect
1	Poultry	North	<p>Corozal & Orange Walk</p> <p>Increase in newcastle, Avian Influenza and Bronchitis disease outbreak due to low temperature and Increase active surveillance for early detection and control measures of poultry diseases. Increase public awareness. Increase biosecurity measures in poultry farms</p>
		Central Inland & Central Coastal	<p>Cayo & Belize</p> <p>Increase in newcastle, Avian Influenza and Bronchitis disease outbreak due to low temperature and bird migration. Increase active surveillance for early detection and control measures of poultry diseases. Increase public awareness. Increase biosecurity measures in poultry farms</p>
		South	<p>Stann Creek & Toledo</p> <p>Increase in newcastle and Avian Influenza virus disease outbreak in Southern region; possible bronchitis disease outbreak as well. Implementation of vaccination program against newcastle disease. Training of farmer on how to vaccinate against newcastle Public awareness and educational trainings. Increase surveillance (active and passive) for early detection and control measures.</p>
2	Cattle	North	<p>Orange Walk, Corozal</p> <p>Can cause an increase in internal and external parasites; as well as increase in rabies outbreak. Recommend timely vaccination against rabies and deworming of animals along with pasture management (silvopastoral system) Increase bat trapping for hematofagous bats Ensure adequate water supply and hay storage, protein banks or citrus pellets Can cause an increase in vesicular stomatitis in cattle and horses Increase management practice as well as pasture rotation. Increase biosecurity measures. Isolate and treat infected animal to prevent further infection.</p>
		Central	<p>Monitoring for early detection in the increase of internal and external parasites; as well as increase in rabies outbreak. Recommend timely vaccination against rabies and deworming of animals along with pasture management (silvopastoral system)</p>

		Inland & Central Coastal	Cayo & Belize	<p>Increase bat trapping for hematofagous (vampire) bats</p> <p>Monitor your water supply and hay storage, protein banks or citrus pellets</p> <p>Monitor for early detection of vesicular stomatitis in cattle and horses</p> <p>Increase herd management practice as well as pasture rotation.</p> <p>Increase biosecurity measures.</p> <p>Isolate and treat infected animal to prevent further infection.</p>
		South	Stann Creek & Toledo	<p>Elevated risk of rabies transmission in cattle as well as vesicular diseases outbreak</p> <p>Increase surveillance for transboundary diseases.</p> <p>increase rabies vaccination where applicable.</p> <p>Increase in bat trapping program required.</p> <p>Can cause an increase in vesicular stomatitis in cattle and horses</p> <p>Increase management practice as well as animal rotation.</p> <p>Increase biosecurity measures.</p> <p>Isolate infected animal to prevent further infection.</p> <p>Can cause an out break of frog hopper in pastures</p> <p>Monitor and control measures where possible</p> <p>Can cause an increase in gastrointestinal infections</p> <p>Monitor for internal parasite in animals.</p>
3	Pigs	North	Corozal & Orange Walk	<p>Increase in gastro intestinal and respiratory infections</p> <p>Proper farm management and ensure adequate water supply</p> <p>Implement deworming strategies and monitoring of symptoms</p>
		Central Inland & Central Coastal	Cayo & Belize	<p>Increase in gastro intestinal and respiratory infections</p> <p>Proper farm management and monitor for adequate water supply</p> <p>Implement deworming strategies and monitoring of symptoms</p>
		South	Stann Creek & Toledo	<p>Increase in diarrhea infection</p> <p>Proper farm management (proper sanitary measures)</p> <p>Increase public awareness</p>
4	Sheep	North	Corozal & Orange Walk,	<p>Increase in internal and external parasites.</p> <p>Deworming of animals and vitamins shots required</p> <p>Ensure adequate water supply</p>

				Proper farm management
		Central Inland & Coastal	Cayo & Belize	Increase in internal and external parasites. Deworming of animals and vitamins shots required Monitoring of water supply Proper farm management
		South	Stann Creek & Toledo	Increase in risk for vesicular and transboundary disease that can potentially enter Belize. Continue surveillance (active and passive) program for these transboundary disease. Proper farm management Can cause an out break of frog hopper in pastures Monitor and control measures where possible

5	Bees	North	Corozal & Orange Walk	Will favour an increase in small hive beetle population outbreak. Management practice in the control of the pest where it is present (Corozal Dist) Ensure adequate food source Increase monitoring and surveillance
		Central Inland & Coastal	Cayo & Belize	Can have a possible outbreak of small hive beetle population. Monitoring and surveillance needs to be conducted frequently Monitoring for adequate food source
		South	Toledo & Stann Crk	Can have a possible outbreak of small hive beetle population. Monitoring and surveillance needs to be conducted frequently

AGRICULTURE COMMODITIES

1	Sugarcane	North	Corozal & Orange Walk	This condition will not favour the pest population outbreak of the frog hopper and sugar cane borers. Continue surveillance and monitoring of the pest Monitor soil moisture and implement irrigation where possible
		Central & Inland Coastal	Cayo & Belize	This condition will not favour the pest population outbreak of the frog hopper and sugar cane borers. Continue surveillance and monitoring of the pest Monitor soil moisture and implement irrigation where possible
		South	Stann Creek & Toledo	Still poses a possibility of pest population increase of frog hopper. Increase surveillance and monitoring of pest population

2	Citrus	Central Inland	Cayo	<p>Will favour psyllid population growth and possible outbreak.</p> <p>Increase monitoring of population dynamics</p> <p>Initiate area wide control measures</p> <p>Monitor soil moisture and implement irrigation where possible</p> <p>Can increase the mite population a vector for the citrus leprosis virus.</p> <p>Miticide spray might be necessary for control.</p>
		South	Stann Creek & Toledo	<p>Will not favour psyllid population growth.</p> <p>Continue monitoring for the pest.</p>
3	Bananas	South	Stann Creek & Toledo	<p>Will favour an increases in outbreaks of Sigatoka</p> <p>Increase monitoring and preventative control measures.</p> <p>Will favour flooding in certain areas</p> <p>Maintenance of drainage systems</p> <p>Will favour increase in nematodes outbreak</p> <p>Continue monitor and implement control measures where possible</p>
4	Grains: Corn, Rice, Beans, Soy bean & Sorghum	North	Corozal & Orange Walk	<p>This will increase chances of mite population outbreak.</p> <p>Monitoring and preventative spray with miticide.</p> <p>Will favour army worm population outbreak</p> <p>increase monitoring and effective control measures if necessary</p> <p>This will favour the yellow sorghum aphid population increase.</p> <p>Increase surveillance and control where necessary.</p> <p>Monitor soil moisture and implement irrigation where possible</p>
		Central & Coastal	Cayo & Belize	<p>This will increase chances of mite population outbreak.</p> <p>Monitoring and preventative spray with miticide.</p> <p>Will favour army worm population outbreak</p> <p>increase monitoring and effective control measures if necessary</p> <p>This will favour the yellow sorghum aphid population increase.</p> <p>Increase surveillance and control where necessary.</p> <p>Monitor soil moisture and implement irrigation where possible</p>
		South	Stann Creek & Toledo	<p>This will favour fungal problems as well as bacterial outbreak.</p> <p>Increase monitoring and control measures where necessary.</p> <p>Ensure proper drainage system to avoid excess moisture</p>

5	Horticulture: Tomatoes, Peppers, Onions, Cabbage, Carrots & Potatoes	North	Corozal, Orange Walk	<p>This will favour white flies, thrips and mite outbreak along with viral diseases.</p> <p>Monitoring and implementing effective control measures.</p> <p>Cover structure production where possible</p> <p>This will favour increase in population for diamond back moth</p> <p>Increase surveillance and monitoring of the pest and apply insecticide where necessary</p> <p>Monitor soil moisture and implement irrigation where possible</p>
		Central Inland & Central Coastal	Cayo & Belize	<p>This will favour white flies, thrips and mite outbreak along with viral diseases.</p> <p>Monitoring and implementing effective control measures.</p> <p>Cover structure production where possible</p> <p>This will favour increase in population for diamond back moth</p> <p>Increase surveillance and monitoring of the pest and apply insecticide where necessary</p> <p>Monitor soil moisture and implement irrigation where possible</p>
		South	Stann Creek & Toledo	<p>This will favour fungal problems as well as bacterial outbreak.</p> <p>Increase monitoring and control measures where necessary.</p> <p>Ensure proper drainage system to avoid excess moisture</p>
6	Fruits Trees: Coconuts, Avocados, Soursop, Cacao & Pineapple	North	Corozal & Orange Walk	<p>Will increase red mite population in coconuts.</p> <p>Spray with miticide where possible</p> <p>Increase in white fly population in avocados and soursop</p> <p>Monitoring and spray with systemic insecticide</p> <p>Possible increase in the wasp population that affects soursop fruits.</p> <p>Monitoring of the wasp and insecticide application where necessary followed by bagging of fruits</p> <p>Can increase weevil (<i>Rhyncophorus palmarum</i>) infestations that causes red ring disease</p> <p>Increase monitoring and trapping</p> <p>Monitor soil moisture and implement irrigation where possible</p>
		Central &		<p>Can increase red mite population in coconuts.</p> <p>Monitor and Spray with miticide where possible</p> <p>Can increase in white fly population in avocados and soursop</p> <p>monitoring and spray with systemic insecticide</p>

	Central & Coastal	Cayo & Belize	<p>Possible increase in the wasp population that affects soursop fruits. monitoring of the wasp and insecticide application where necessary followed by bagging Can increase weevil (<i>Rhyncophorus palmarum</i>) infestations that causes red ring disease Increase monitoring and trapping Monitor soil moisture and implement irrigation where possible</p>
	South	Stann Creek & Toledo	<p>This will favour an increase incidence of phytophthora problems in coconuts and pineapple. Continue monitoring and control measures where necessary. Will favour an increase in monilia problems in cacao. Continue monitoring for moniliasis and control measure where necessary Ensure proper drainage system to avoid excess moisture</p>

For further information or feed back on the forecast send an email to:

fblanco@oirsa.org

kenrick.witty@baha.org.bz

dir.wmcc@agriculture.gov.bz

joel.villanueva@baha.org.bz

Aproximate rainfall amount expected for different areas of Belize for August to October, 2018		
REGION	RAINFALL AMOUNT (mm)	Category
North (Corozal & Orange Walk District	400 - 500	Below Normal
Central Inland areas (Cayo District)	350 - 700	Below Normal
Central Coastal Areas (Belize District)	400 - 600	Below Normal
Southern Areas (Stann Creek & Toledo District)	1000 - 1800	Normal to slightly above normal

Nb. Provided by the Met Department

s.young@hydromet.gov.bz