

**SEASONAL WEATHER FORECAST & ITS EFFECTS TO AGRICULTURE  
FOR BELIZE**

**September to November 2019**

**Alert Level**

No Concern
Drought Watch
Drought Warning

LIVESTOCK	Zone	District	Possible Effects and actions to mitigate effect
1 <b>Poultry</b> Take into consideration that there might be some flood days, take precaution	North	Corozal & Orange Walk	Possibility of heat stress in all flocks in commercial farms & for Backyard poultry make sure enough water supply is there. Install water sprinklers and fans and shade for backyard chicken Open sidelines for ventilation and for flock to refresh. Increase biosecurity measures in poultry farms
	Central Inland	Cayo	Possibility of heat stress in all flocks in commercial farms & for Backyard poultry make sure enough water supply is there. Install water sprinklers and fans and shade for backyard chicken Open sidelines for ventilation and for flock to refresh. Increase biosecurity measures in poultry farms
	Central Coastal	Belize	Possibility of heat stress in all flocks in commercial farms & for Backyard poultry make sure enough water supply is there. Install water sprinklers and fans and shade for backyard chicken Open sidelines for ventilation and for flock to refresh. Increase biosecurity measures in poultry farms
	South	Stann Creek	Possibility of heat stress in all flocks in commercial farms & for Backyard poultry make sure enough water supply is there. Install water sprinklers and fans and shade for backyard chicken Open sidelines for ventilation and for flock to refresh. Increase biosecurity measures in poultry farms
		Toledo	Increase biosecurity measures in poultry farms Public awareness and educational trainings. Increase surveillance (active and passive) for early detection and control measures.
2 <b>Cattle</b> Take into consideration that there might be	North	Orange Walk, Corozal	Can cause an increase in internal and external parasites Recommend timely deworming of animals along with pasture management (silvopastoral system) Ensure adequate water supply and hay storage, protein banks, citrus pellets or multinutritional blocks Possible outbreak of black leg and rabies.

<p>might be some flood days, take precaution</p>			<p>Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.</p> <p>Can cause heat stress Make sure adecuate water supply is present</p>
	Central Inland	Cayo	<p>Can cause an increase in internal and external parasites Recommend timely deworming of animals along with pasture management (silvopastoral Ensure adecuate water supply and hay storage, protein banks, citrus pellets or multinutritional blocks Possible outbreak of black leg and rabies. Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.</p> <p>Can cause heat stress Make sure adecuate water supply is present</p>
	Central Coastal	Belize	<p>Can cause an increase in internal and external parasites Recommend timely deworming of animals along with pasture management (silvopastoral Ensure adecuate water supply and hay storage, protein banks or citrus pellets Can cause heat stress Make sure adecuate water supply is present</p>
	South	Stann Creek	<p>An increase of internal and external parasites. Recommend timely deworming of animals along with pasture management (silvopastoral Can cause heat stress Ensure adecuate water supply and hay storage, protein banks or citrus pellets</p>
		Toledo	<p>May cause an increase in internal and external parasites Recommend timely deworming of animals along with pasture management (silvopastoral Ensure adecuate water supply and hay storage, protein banks, citrus pellets &amp; multinutritional blocks Can cause heat stress Make sure adecuate water supply is present</p>
	3	North	Corozal & Orange Walk
<p>Take into consideration that there might be</p>			<p>Can cause heat stress Adecuate water supply and allow enough space per animal</p>

might be some flood days, take precaution		Cayo	Clean the pig pen more frequently and wet animals to reduce body temperature Farmers are encourage to report any mortality in their farms Install sprinklers where necessary.
	Central coastal	Belize	Can cause heat stress Adecuate water supply and allow enough space per animal Farmers are encourage to report any mortality in their farms Install sprinklers where necessary.
		Stann Creek	Can cause heat stress Adecuate water supply and allow enough space per animal Clean the pig pen more frequently and wet animals to reduce body temperature Farmers are encourage to report any mortality in their farms Install sprinklers where necessary.
		Toledo	Can cause heat stress Adecuate water supply and allow enough space per animal Farmers are encourage to report any mortality in their farms Install sprinklers where necessary.

4 Sheep Take into consideration that there might be some flood days, take precaution	North	Corozal & Orange Walk,	Possible internal and external parasites. Rotation of Dewormers for animals and continued vitamins shots if required Proper farm management Can cause heat stress Make sure adecuate water supply is present Install shade on barn
	Central Inland	Cayo	Possible internal and external parasites. Rotation of Dewormers for animals and continued vitamins shots if required Proper farm management Can cause heat stress Make sure adecuate water supply is present Install shade on barn
	Central Coastal	Belize	Possible internal and external parasites. Rotation of Dewormers for animals and continued vitamins shots if required Proper farm management Can cause heat stress Make sure adecuate water supply is present

				Install shade on barn
			Stann Creek	<p>Possible internal and external parasites. Deworming of animals and vitamins shots required Proper farm management Can cause heat stress Make sure adequate water supply is present Install shade on barn</p>
			Toledo	<p>Possible internal and external parasites. Rotation of Dewormers for animals and continued vitamins shots if required Proper farm management Can cause heat stress Make sure adequate water supply is present Install shade on barn</p>

5	Bees	North	Corozal & Orange Walk	<p>Will favour an increase in small hive beetle population outbreak.</p> <p>Management practice in the control of the pest where it is present (Corozal &amp; O.W. Dist) Add food source and water. Implement movement control measures Increase monitoring and surveillance</p>
		Central Inland	Cayo	<p>Continue surveillance for early detection of Small Hive Beetle and other mite problem Adequate supply of water and food</p>
		Central Costal	Belize	<p>Can have a possible infestation of small hive beetle population. Monitoring and surveillance needs to be conducted frequently Adequate supply of water and food</p>
			Stann Creek	<p>Continue surveillance for early detection of Small Hive Beetle and other pests Adequate supply of water and food</p>
			Toledo	<p>Continue surveillance for early detection of Small Hive Beetle Adequate supply of water and food</p>

#### AGRICULTURE COMMODITIES

1	Sugarcane There might be	North	Corozal &	<p>This condition will not favour the pest population outbreak of the frog hopper. Continue surveillance and monitoring of the pest This condition will favour sugar cane borer population outbreak.</p>
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possibilities of fungal outbreak like smut problems		Orange Walk	<p>Monitor and control where possible of the sugar cane borer.</p> <p>This favour the yellow sugarcane aphid population outbreak</p> <p>Monitor and control where outbreak is located.</p>
	Central & Inland Coastal	Cayo	<p>This condition will not favour the pest population outbreak of the frog hopper.</p> <p>Continue surveillance and monitoring of the pest</p> <p>This condition will favour sugar cane borer population outbreak.</p> <p>Monitor and control where possible of the sugar cane borer.</p> <p>Insufficient rainfall which can cause severe plant growth retardation.</p> <p>provide water supply to the plantations</p>
		Belize	<p>This condition will favour sugar cane borer population outbreak.</p> <p>Monitor and control where possible of the sugar cane borer.</p>
	South	Stann Creek	<p>This condition will favour sugar cane borer population outbreak.</p> <p>Monitor and control where possible of the sugar cane borer.</p> <p>Implement irrigation system where possible</p>
		Toledo	<p>This condition will favour sugar cane borer population outbreak.</p> <p>Monitor and control where possible of the sugar cane borer.</p>
Citrus		Cayo	<p>Will favour psyllid population growth and possible outbreak.</p> <p>Continue monitoring of population dynamics</p> <p>Control measure be implemented if necessary</p> <p>Will favour the mite population increase, a vector for the citrus leprosis virus.</p> <p>Preventative miticide spraying will be necessary for control.</p>
	South	Stann Creek	<p>May favour psyllid population growth and possible outbreak.</p> <p>Continue monitoring of population dynamics</p> <p>Control measure be implemented where necessary</p> <p>May favour the mite population increase, a vector for the citrus leprosis virus.</p> <p>Preventative miticide spraying will be necessary for control.</p>
		Toledo	<p>Will favour psyllid population growth.</p> <p>Continue monitoring of population dynamics and implement control measures</p> <p>Will favour the mite population increase, a vector for the citrus leprosis virus.</p> <p>Preventative miticide spraying will be necessary for control.</p>
Banana Take into		Stann Creek	<p>Will not favour outbreaks of Sigatoka</p> <p>Continue monitoring and preventative control measures be implemented if necessary.</p>

	consideration that there might be some flood & windy days, take precaution		Stann Creek	Will favour water stress Implement irrigation where necessary
			Toledo	Will not favour outbreaks of Sigatoka Continue monitoring and preventative control measures be implemented if necessary.
4	Grains: Corn, Rice, Beans, Soy bean & Sorghum Take into consideration that there might be some flood & windy days, take precaution	North	Corozal & Orange Walk	This will still favour chances of mite population outbreak. Monitoring and preventative spray with miticide. Will favour army worm population outbreak increase monitoring and effective control measures if necessary This will favour the yellow sorghum aphid population increase. Increase surveillance and control where necessary. Implement irrigation systems where possible.
		Central & Coastal	Cayo	This will still favour chances of mite population outbreak. Monitoring and preventative spray with miticide. Will favour army worm population outbreak increase monitoring and effective control measures if necessary This will favour the yellow sorghum aphid population increase. Increase surveillance and control where necessary. Implement irrigation systems where possible.
			Belize	This will favour chances of mite population outbreak. Monitoring and preventative spray if necessary with miticide. May favour army worm population outbreak increase monitoring and effective control measures if necessary May favour the yellow sorghum aphid population increase. Increase surveillance and control where necessary. Implement irrigation systems where possible.
		South	Stann Creek	This will not favour fungal problems nor bacterial outbreak. Continue monitoring and where necessary implement control measures Will favour army worm population outbreak increase monitoring and effective control measures if necessary Implement irrigation systems where possible.
			Toledo	This may favour fungal problems and bacterial outbreak. Continue monitoring and where necessary implement control measures May favour army worm population outbreak Continue monitoring and effective control measures if necessary
5	Horticultur			This will favour an increase in white flies, thrips and mite outbreak along with viral diseases.

e: Tomatoes, Peppers, Onions, Cabbage, Carrots & Potatoes  Be vigilant for fungal outbreaks after heavy rainfalls.	North	Corozal, Orange Walk	<p>Increase monitoring and implement effective control measures. Cover structure production where possible</p> <p>This will favour increase in population for diamond back moth Increase surveillance and monitoring of the pest and apply insecticide where necessary</p> <p>Will favour water stress Implement irrigation where necessary</p>
	Central Inland & Central Coastal	Cayo	<p>This will favour an increase in white flies, thrips and mite outbreak along with viral diseases. Increase monitoring and implement effective control measures. Cover structure production where possible</p> <p>This will favour increase in population for diamond back moth Increase surveillance and monitoring of the pest and apply insecticide where necessary</p> <p>Will favour water stress Implement irrigation where necessary</p>
		Belize	<p>This will favour an increase in white flies, thrips and mite outbreak along with viral diseases. Increase monitoring and implement effective control measures. Cover structure production where possible</p> <p>This may favour increase in population for diamond back moth Increase surveillance and monitoring of the pest and apply insecticide where necessary</p> <p>Will favour water stress Implement irrigation where necessary</p>
	South	Stann Creek	<p>This will favour an increase in white flies, thrips and mite outbreak along with viral diseases. Increase monitoring and implement effective control measures. Cover structure production where possible</p> <p>This will not favour fungal problems nor bacterial outbreak. Continue monitoring and control measures where necessary. Implement irrigation measures where necessary</p>
		Toledo	<p>This may favour an increase in white flies, thrips and mite outbreak along with viral diseases. Increase monitoring and implement effective control measures. Cover structure production where possible</p> <p>This may favour increase in population for diamond back moth Increase surveillance and monitoring of the pest and apply insecticide where necessary</p>
6	Fruits Trees: Coconuts, Avocadoes,		<p>Will increase red mite population in coconuts. Spray with miticide where possible</p> <p>Increase in white fly population in avocadoes and soursop</p>

Soursop, Cacao & Pineapple	North	Corozal & Orange Walk	<p>Monitoring and spray with systemic insecticide</p> <p>Possible increase in the wasp &amp; moth population that affects soursop fruits. Monitoring of the wasp &amp; moth 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>Implement irrigation systems where possible.</p>
	Central & Coastal	Cayo	<p>Will increase red mite population in coconuts. Spray with miticide where possible</p> <p>Increase in white fly population in avocados and soursop Monitoring and spray with systemic insecticide</p> <p>Possible increase in the wasp &amp; moth population that affects soursop fruits. Monitoring of the wasp &amp; moth and insecticide application where necessary followed by</p> <p>Can increase weevil (<i>Rhyncophorus palmarum</i>) infestations that causes red ring disease</p> <p>Increase monitoring and trapping</p> <p>Implement irrigation systems where possible.</p>
		Belize	<p>Will increase red mite population in coconuts. Monitor and Spray with miticide where possible</p> <p>Will increase in white fly population in avocados and soursop monitoring and spray with systemic insecticide if necessary</p> <p>Will increase in the wasp &amp; moth population that affects soursop fruits. monitoring of the wasp &amp; moth and insecticide application where necessary followed by bagging of fruits</p> <p>Will increase weevil (<i>Rhyncophorus palmarum</i>) infestations that causes red ring disease</p> <p>Increase monitoring and trapping</p> <p>Implement irrigation systems where possible.</p>
	South	Stann Creek	<p>This will not favour pythophtora problems in coconuts and pineapple. Continue monitoring and control measures where necessary.</p> <p>Will not favour problems in monilia in cacao. Continue surveillance for monilia and control measure where necessary</p> <p>Implement irrigation systems where possible.</p>
		Toledo	<p>This may favour pythophtora problems in coconuts and pineapple. Continue monitoring and control measures where necessary.</p> <p>May favour problems in monilia in cacao. Continue surveillance for monilia and control measure where necessary</p>

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<b>Aproximate rainfall amount expected for different areas of Belize for Sep, Oct &amp; November 2019</b>		
<b>REGION</b>	<b>RAINFALL AMOUNT (mm)</b>	<b>Category</b>
North ( Corozal & Orange Walk District)	500 - 650	Normal to Slightly above Normal
Central Inland areas (Cayo District)	600 - 800	Near Normal
Central Coastal Areas (Belize District)	650 - 750	Near Normal
Southern Areas (Stann Creek & Toledo District)	700 - 1000	Normal to slightly below Normal

Nb. Provided by the Met Department

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