

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

March to May 2019

Drought Warning
Drought Watch

LIVESTOCK	Zone	District	Possible Effects and actions to mitigate effect
1	Poultry	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	Public awareness and educational trainings. Increase surveillance (active and passive) for early detection and control measures.
2	Cattle	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 or citrus pellets Can cause heat stress Make sure adequate water supply is present
			An increase of internal and external parasites.

		Central Inland	Cayo	<p>Recommend timely deworming of animals along with pasture management (silvopastoral system) and vitamins supplement</p> <p>Can cause heat stress</p> <p>Ensure adequate water supply and hay storage, protein banks or citrus pellets</p>
		Central Coastal	Belize	<p>Can cause an increase in internal and external parasites</p> <p>Recommend timely deworming of animals along with pasture management (silvopastoral)</p> <p>Ensure adequate water supply and hay storage, protein banks or citrus pellets</p> <p>Can cause heat stress</p> <p>Make sure adequate water supply is present</p>
		South	Stann Creek	<p>An increase of internal and external parasites.</p> <p>Recommend timely deworming of animals along with pasture management (silvopastoral)</p> <p>Can cause heat stress</p> <p>Ensure adequate water supply and hay storage, protein banks or citrus pellets</p>
			Toledo	<p>Can cause an increase in internal and external parasites</p> <p>Recommend timely deworming of animals along with pasture management (silvopastoral)</p> <p>Ensure adequate water supply and hay storage, protein banks or citrus pellets</p> <p>Can cause heat stress</p> <p>Make sure adequate water supply is present</p>
3	Pigs	North	Corozal & Orange Walk	<p>Can cause heat stress</p> <p>Adequate water supply and allow enough space per animal</p> <p>Install sprinklers where necessary.</p>
		Central Inland	Cayo	<p>Can cause heat stress</p> <p>Adequate water supply and allow enough space per animal</p> <p>Clean the pig pen more frequently and wet animals to reduce body temperature</p> <p>Install sprinklers where necessary.</p>
		Central coastal	Belize	<p>Can cause heat stress</p> <p>Adequate water supply and allow enough space per animal</p> <p>Install sprinklers where necessary.</p>
			Stann Creek	<p>Can cause heat stress</p> <p>Adequate water supply and allow enough space per animal</p> <p>Clean the pig pen more frequently and wet animals to reduce body temperature</p>

		South		Install sprinklers where necessary.
			Toledo	Can cause heat stress Adecuate water supply and allow enough space per animal Install sprinklers where necessary.
4	Sheep	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. Deworming of animals and vitamins shots 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
		South	Stann Creek	Possible internal and external parasites. Deworming of animals and vitamins shots required Proper farm management Can cause heat stress Make sure adecuate water supply is present Install shade on barn
			Toledo	Possible internal and external parasites. Rotation of Dewormers for animals and continued vitamins shots if required Proper farm management Can cause heat stress

				<p>Make sure adequate water supply is present</p> <p>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 & O.W. Dist)</p> <p>Add food source and water.</p> <p>Increase monitoring and surveillance</p>
		Central Inland	Cayo	<p>Continue surveillance for early detection of Small Hive Beetle</p> <p>Adequate supply of water and food</p>
		Central Coastal	Belize	<p>Can have a possible infestation of small hive beetle population.</p> <p>Monitoring and surveillance needs to be conducted frequently</p> <p>Adequate supply of water and food</p>
		South	Stann Creek	<p>Continue surveillance for early detection of Small Hive Beetle</p> <p>Adequate supply of water and food</p>
			Toledo	<p>Continue surveillance for early detection of Small Hive Beetle</p> <p>Adequate supply of water and food</p>

AGRICULTURE COMMODITIES

1	Sugarcane	North	Corozal & Orange Walk (North & South West)	<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>Will favour wild fire outbreaks during burning</p> <p>Control burning of plantation</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>Can favour forest fire which might be able to reach the plantation</p> <p>Clean fire breakers around plantation</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> <p>Can favour forest fire which might be able to reach the plantation</p> <p>Clean fire breakers around plantation</p>

		South	Stann Creek	<p>This condition will favour sugar cane borer population outbreak. Monitor and control where possible of the sugar cane borer. Can cause wild fires Controlled burning is required</p>
			Toledo	<p>This condition will favour sugar cane borer population outbreak. Monitor and control where possible of the sugar cane borer. Can cause wild fires Controlled burning is required</p>
2	Citrus	Central Inland	Cayo	<p>Will not favour psyllid population growth and possible outbreak. Continue monitoring of population dynamics Control measure be implemented if necessary Will favour the mite population increase, a vector for the citrus leprosis virus. Preventative miticide spraying will be necessary for control.</p>
		South	Stann Creek	<p>Will not favour psyllid population growth and possible outbreak. Continue monitoring of population dynamics Control measure be implemented if necessary Will favour the mite population increase, a vector for the citrus leprosis virus. Preventative miticide spraying will be necessary for control.</p>
			Toledo	<p>Will not favour psyllid population growth. Continue monitoring of population dynamics Will favour the mite population increase, a vector for the citrus leprosis virus. Preventative miticide spraying will be necessary for control.</p>
3	Bananas	South	Stann Creek	<p>Will not favour outbreaks of Sigatoka Continue monitoring and preventative control measures be implemented if necessary. Will favour water stress Implement irrigation where necessary</p>
			Toledo	<p>Will not favour outbreaks of Sigatoka Continue monitoring and preventative control measures be implemented if necessary. Will favour water stress Implement irrigation where necessary</p>
4	Grains: Corn, Rice,			<p>This will still favour chances of mite population outbreak. Monitoring and preventative spray with miticide.</p>

	Beans, Soy bean & Sorghum	North	Corozal & Orange Walk	<p>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.</p>
		Central & Coastal	Cayo	<p>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.</p>
			Belize	<p>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.</p>
		South	Stann Creek	<p>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</p>
			Toledo	<p>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</p>
5	Horticulture: Tomatoes, Peppers, Onions, Cabbage, Carrots & Potatoes	North	Corozal, Orange Walk	<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 This will favour increase in population for diamond back moth Increase surveillance and monitoring of the pest and apply insecticide where necessary Will favour water stress Implement irrigation where necessary</p>
				<p>This will favour scale insects, white flies, thrips, mealybugs and mite outbreak along with viral diseases.</p>

		Central Inland & Central Coastal	Cayo	<p>Monitoring and implementing effective control measures. Cover structure production where possible</p> <p>Will favour water stress Implement irrigation where necessary</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>
			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 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>
		South	Stann Creek	<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 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>
6	Fruits Trees: Coconuts, Avocadoes, Soursop, Cacao & Pineapple	North	Corozal & Orange Walk	<p>Will increase red mite population in coconuts. Spray with miticide where possible</p> <p>Increase in white fly population in avocadoes and soursop Monitoring and spray with systemic insecticide</p> <p>Possible increase in the wasp & moth population that affects soursop fruits. Monitoring of the wasp & moth and insecticide application where necessary followed by bagging of fruits</p> <p>Can increase weevil (<i>Rhynchophorus palmarum</i>) infestations that causes red ring disease</p>

			Increase monitoring and trapping
Central & Coastal	Cayo	<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</p> <p>Will increase in the wasp & moth population that affects soursop fruits. monitoring of the wasp & moth and insecticide application where necessary followed by</p> <p>Will increase weevil (<i>Rhyncophorus palmarum</i>) infestations that causes red ring disease</p> <p>Increase monitoring and trapping</p>	
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South	Stann Creek	<p>This will not favour phytophthora 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>	
	Toledo	<p>This will not favour phytophthora 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>	

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**Aproximate rainfall amount expected for different areas of Belize for
March, April & May 2019**

REGION	RAINFALL AMOUNT (mm)	Category
North (Corozal & Orange Walk District)	100 - 175	Below Normal
Central Inland areas (Cayo District)	100 - 200	Below Normal
Central Coastal Areas (Belize District)	150 - 250	Below Normal
Southern Areas (Stann Creek & Toledo District)	200 - 400	Normal to Below Normal

Nb. Provided by the Met Department

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