

SEASONAL WEATHER FORECAST & ITS EFFECTS TO AGRICULTURE FOR BELIZE

January to March 2020

Alert Level

No Concern

Drought Watch

Drought Warning

LIVESTOCK	Zone	District	Possible Effects and actions to mitigate effect
1	Poultry	North	<p>Corozal & Orange Walk</p> <p>Possibility of exotic diseases being introduced due to migrating birds from the North.</p> <p>Continue monitoring and reporting of the these diseases.</p> <p>Continue monitoring and provide adequate water supply to poultry farms</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Increase biosecurity measures in poultry farms</p>
		Central Inland	<p>Cayo</p> <p>Possibility of drier months and introduction of exotic diseases due to migrating birds.</p> <p>Continue monitoring and reporting of the these diseases.</p> <p>Continue monitoring and provide adequate water supply to poultry farms</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Increase biosecurity measures in poultry farms</p>
		Central Coastal	<p>Belize</p> <p>Possibility of exotic diseases being introduced due to migrating birds from the North.</p> <p>Continue monitoring and reporting of the these diseases.</p> <p>Continue monitoring and provide adequate water supply to poultry farms</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Increase biosecurity measures in poultry farms</p>
		South	<p>Stann Creek</p> <p>Possibility of drier months and introduction of exotic diseases due to migrating birds.</p> <p>Continue monitoring and reporting of the these diseases.</p> <p>Continue monitoring and provide adequate water supply to poultry farms</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Increase biosecurity measures in poultry farms</p>
			<p>Toledo</p> <p>Possibility of introduction of exotic diseases due to migrating birds, like Newcastle and other.</p> <p>Increase biosecurity measures in poultry farms</p> <p>Implement newcastle vaccination for prevention along for fowl pox as well.</p> <p>Public awareness and educational trainings.</p> <p>Increase surveillance (active and passive) for early detection and control measures.</p>
2	Cattle		<p>Can cause an increase in internal and external parasites due to drier months</p> <p>Recommend timely deworming of animals along with pasture management (silvopastoral system)</p>

North	Orange Walk, Corozal	<p>Ensure adequate water supply and storage to ensure supply for drier month</p> <p>Provide hay storage, adequate management of protein and energy bank, citrus pellets or multinutritional blocks as supplemental feeding</p> <p>Possible outbreak of black leg and rabies.</p> <p>Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.</p>
Central Inland	Cayo	<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 storage to ensure supply for drier month</p> <p>Provide hay storage, adequate management of protein and energy bank, citrus pellets or</p> <p>Possible outbreak of black leg and rabies.</p> <p>Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.</p> <p>Provide adequate shade supply</p>
Central Coastal	Belize	<p>Can cause an increase in internal and external parasites due to drier months</p> <p>Recommend timely deworming of animals along with pasture management (silvopastoral)</p> <p>Ensure adequate water supply and storage to ensure supply for drier month</p> <p>Provide hay storage, adequate management of protein and energy bank, citrus pellets or</p> <p>Possible outbreak of black leg and rabies.</p> <p>Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.</p>
South	Stann Creek	<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 storage to ensure supply for drier month</p> <p>Provide hay storage, adequate management of protein and energy bank, citrus pellets or</p> <p>Possible outbreak of black leg and rabies.</p> <p>Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.</p>
	Toledo	<p>Can cause an increase in internal and external parasites due to drier months</p> <p>Recommend timely deworming of animals along with pasture management (silvopastoral)</p> <p>Ensure adequate water supply and storage to ensure supply for drier month</p> <p>Provide hay storage, adequate management of protein and energy bank, citrus pellets or</p> <p>Possible outbreak of black leg and rabies.</p>

				Continue monitoring and vaccinate and farmers are encourage to report any suspect cases.
3	Pigs	North	Corozal & Orange Walk	<p>Possibility of respiratory diseases being introduced due to migrating birds from the North. Continue monitoring and reporting of the these diseases. Continue monitoring and provide adequate water supply to pig farms Implement water storage systems for the upcoming drier months Increase biosecurity measures in pig farms</p>
		Central inland	Cayo	<p>Possibility of drier months and introduction of exotic diseases due to migrating birds. Continue monitoring and reporting of the these diseases. Continue monitoring and provide adequate water supply to pig farms Implement water storage systems for the upcoming drier months Increase biosecurity measures in pig farms</p>
		Central coastal	Belize	<p>Possibility of respiratory diseases being introduced due to migrating birds from the North. Continue monitoring and reporting of these diseases. Continue monitoring and provide adequate water supply to pig farms Implement water storage systems for the upcoming drier months Increase biosecurity measures in pig farms</p>
		South	Stann Creek	<p>Possibility of drier months and introduction of exotic diseases due to migrating birds. Continue monitoring and reporting of the these diseases. Continue monitoring and provide adequate water supply to pig farms Implement water storage systems for the upcoming drier months Increase biosecurity measures in pig farms</p>
			Toledo	<p>Possibility of respiratory diseases being introduced due to migrating birds from the North. Continue monitoring and reporting of these diseases. Implement deworming program and vitamins shots Implement water storage systems for the upcoming drier months Implement supplemental feeding.</p>
4	Sheep	North	Corozal & Orange Walk,	<p>Possible internal and external parasites. Rotation of Dewormers for animals and continued vitamins shots if required Proper farm management Implement water storage systems for the upcoming drier months Implement protein bank and supplemental feeding Implement rabies vaccination</p>

		Central Inland	Cayo	<p>Possible internal and external parasites.</p> <p>Rotation of Dewormers for animals and continued vitamins shots if required</p> <p>Proper farm management</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Implement protein bank and supplemental feeding</p> <p>Implement rabies & black leg vaccination</p>
		Central Coastal	Belize	<p>Possible internal and external parasites.</p> <p>Rotation of Dewormers for animals and continued vitamins shots if required</p> <p>Proper farm management</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Implement protein bank and supplemental feeding</p> <p>Implement rabies vaccination</p>
		South	Stann Creek	<p>Possible internal and external parasites.</p> <p>Deworming of animals and vitamins shots required</p> <p>Proper farm management</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Implement protein bank and supplemental feeding</p> <p>Implement rabies & black leg vaccination</p>
			Toledo	<p>Possible internal and external parasites.</p> <p>Rotation of Dewormers for animals and continued vitamins shots if required</p> <p>Proper farm management</p> <p>Implement water storage systems for the upcoming drier months</p> <p>Implement protein bank and supplemental feeding</p> <p>Implement rabies vaccination</p>
5	Bees	North	Corozal & Orange Walk	<p>Will not favour an increase in small hive beetle population outbreak.</p> <p>Implement adequate management practice in the control of the pest where it is present.</p> <p>Add food source and water.</p> <p>Increase monitoring and surveillance</p>
		Central Inland	Cayo	<p>Will not favour an increase in small hive beetle population outbreak.</p> <p>Implement adequate management practice in the control of the pest in areas where it is present in the district</p> <p>Monitor and reporting the presence of suspect cases is required</p>

6	Aquaculture	Central Coastal		Adecuate supply of water and food
			Belize	Can have a possible infestation of small hive beetle population. Monitoring and surveillance needs to be conducted frequently Adecuate supply of water and food
		South	Stann Creek	Continue surveillance for early detection of Small Hive Beetle and other pests Adecuate supply of water and food
			Toledo	Continue surveillance for early detection of Small Hive Beetle Adecuate supply of water and food
		North	Corozal & Orange Walk	
		Central Inland	Cayo	
		Central Coaster	Belize	
		South	Stann Creek	
			Toledo	

AGRICULTURE COMMODITTIES

1	Sugarcane	North	Corozal & Orange Walk	<p>This condition will 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>Overall conditions does not favor the yellow sugarcane aphid population outbreak</p> <p>Continue monitoring and control where high population occurs.</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. Monitor and control where possible of the sugar cane borer. Implement irrigation system where possible</p>
			Toledo	<p>This condition will not favour sugar cane borer population outbreak. Monitor and control where possible of the sugar cane borer. This condition will favour the frog hopper population outbreak Monitor and control where possible of the sugar cane frog hopper.</p>
	Citrus		Cayo	<p>Will 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>May favour psyllid population growth and possible outbreak. Continue monitoring of population dynamics Control measure be implemented where necessary May 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 and implement control measures Will not favour the mite population increase, a vector for the citrus leprosis virus. Preventative miticide spraying required where high population are present for control.</p>
	Banana		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 favour outbreaks of Sigatoka Continue monitoring and preventative control measures be implemented if necessary.</p>
4	Grains: Corn, Rice, Beans, Soy bean & Sorghum	North	Corozal & Orange Walk	<p>This will 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.</p>

				<p>Increase surveillance and control where necessary.</p> <p>Implement water storage for irrigation systems for the drier months</p>
		Central & Coastal	Cayo	<p>This will favour 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>Implement water harvesting for irrigation systems where possible.</p>
			Belize	<p>This may favour chances of mite population outbreak.</p> <p>Monitoring and preventative spray if necessary with miticide.</p> <p>May favour army worm population outbreak</p> <p>increase monitoring and effective control measures if necessary</p> <p>May favour the yellow sorghum aphid population increase.</p> <p>Increase surveillance and control where necessary.</p> <p>Implement water harvesting for irrigation systems where possible.</p>
		South	Stann Creek	<p>This will not favour fungal problems nor bacterial outbreak.</p> <p>Continue monitoring and where necessary implement control measures</p> <p>Will favour army worm population outbreak</p> <p>increase monitoring and effective control measures if necessary</p> <p>Implement water harvesting for irrigation systems where possible.</p>
			Toledo	<p>This may favour fungal problems and bacterial outbreak.</p> <p>Continue monitoring and where necessary implement control measures</p> <p>May favour army worm population outbreak</p> <p>Continue 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.</p> <p>Increase monitoring and implement 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>Will favour possible water stress</p> <p>Implement water harvesting for irrigation where necessary</p>
				<p>This will favour an increase in white flies, thrips and mite outbreak along with viral diseases.</p> <p>Increase monitoring and implement effective control measures.</p> <p>Cover structure production where possible</p>

		Central Inland & Central Coastal	Cayo	<p>This will favour increase in population for diamond back moth Increase surveillance and monitoring of the pest and apply insectide where necessary</p> <p>Will favour water stress Implement water harvesting for irrigation where necessary</p>
			Belize	<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 insectide where necessary</p> <p>May favour water stress Implement water harvesting for 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 water harvesting for irrigation where necessary</p>
			Toledo	<p>This will not favour an increase in white flies, thrips and mite outbreak along with viral diseases. Continue monitoring and implement effective control measures where necessary. Cover structure production where possible</p> <p>This will not favour population increase of diamond back moth Continue surveillance and monitoring of the pest and apply insecticide 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>Rhyncophorus palmarum</i>) infestations that causes red ring disease Increase monitoring and trapping Implement irrigation systems where possible.</p>
				<p>Will increase red mite population in coconuts. Spray with miticide where possible</p>

		Central & Coastal	Cayo	<p>Increase in white fly population in avocado 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>Rhyncophorus palmarum</i>) infestations that causes red ring disease Increase monitoring and trapping Implement water harvest for irrigation systems where possible.</p>
			Belize	<p>May increase red mite population in coconuts. Monitor and Spray with miticide where possible</p> <p>May increase in white fly population in avocados and soursop monitoring and spray with systemic insecticide if necessary</p> <p>May 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>May increase weevil (<i>Rhyncophorus palmarum</i>) infestations that causes red ring disease Increase monitoring and trapping Implement water harvest for 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>Does not favour the spread of monilia in cacao. Continue surveillance for monilia and control measure where necessary Implement water harvest for irrigation systems where possible.</p>
			Toledo	<p>This will favour pythophtora problems in coconuts and pineapple. Continue monitoring and control measures where necessary.</p> <p>Will favour problems in monilia in cacao. Continue surveillance for monilia and control measure where necessary</p>

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Approximate rainfall amount expected for different areas of Belize for Jan, Feb & March 2020		
REGION	RAINFALL AMOUNT (mm)	Category
North (Corozal & Orange Walk District)	90 - 120	Slightly Below Normal
Central Inland areas (Cayo District)	100 - 500	Slightly Below Normal
Central Coastal Areas (Belize District)	200 - 300	Near Normal
Southern Areas (Stann Creek & Toledo District)	250 - 500	Slightly Above Normal

Nb. Provided by the Met Department

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