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Editorial

Climate Change and Animal Health

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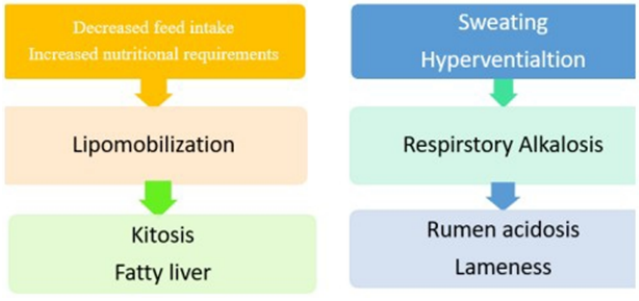
Climate is one of the major factors that may play an important role to change disease extremities, which is anticipated to have a disastrous impact on both human and animal health, while climate change refers to long-term shifts in weather patterns and temperature throughout the world (Rabinowitz and Conti, 2013). Changes in environmental factors, such as air temperature, relative humidity, precipitation, frequency and intensity of extreme events, can have both direct and indirect effects on animal health (i.e., extreme precipitation events, heat waves, severe droughts, and coastal floods).

Schematic representation of the impact of climate change on animal health



Heat stress; A direct effect of climate change:

Among direct effects of climate change heat stress is most significant factor and play an important role to decrease in livestock production. Heat stress also a major cause of decrease in animal health and reproductive efficiency, due to heat stress milk, meat and egg production of livestock become reduced and in result of these reductions livestock owners face a significant financial burden. Animals under heat stress consume less food and drink more water. They also modify their endocrine condition, which raises their maintenance needs and decrease performance (Gaughan and Cawsell-Smith, 2015). Significant drops in milk production are indicated by decreased lactose contents, fat content, solid non-fat, and lower-chain fatty acids, as well as rising palmitic and stearic acid concentrations. Production losses could occur after adaptation to ongoing pressures. In a hostile environment, increasing or maintaining current output levels is unsustainable. Even if their production levels (and input costs) will be lower, it would make more sense to use animals that have already acclimated relatively than trying to transfer "stress tolerance" genes into non-adapted breeds.

Indirect effects of climate change on animal health

Climate change may have an impact on the type, amount, and distribution of rain, snowmelt, river flow, and groundwater. Indirect effects of changing climate are most valuable factors and cause most of the production losses through un availability or decrease in water and feed resources. Due to climate change quality and quantity of forage production is compromised. Climate change has the potential to negatively impact productivity, species composition, and quality, which could have effects on other ecological functions of grasslands in addition to forage production (Giridhar and Samireddypalle, 2015). Longer dry spells could decrease groundwater recharge and river flow, which would then have an impact on water availability, agriculture, and drinking water supplies. Animal physiological equilibrium is impacted by a lack of water, and this results in body weight loss, poor reproduction rates, and lowered disease resistance (Naqvi., *et al*. 2015). Additionally, due to various infectious and vector borne diseases those are also indirect effects of climate change there will be significant economic losses. In order to promote the development of adaptation solutions for agriculture, additional study is required to understand how vulnerable water resources are to climate change.