Advances in Agricultural Technology & Plant Sciences
ISSN: 2640-6586

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Editorial *Volume 3 Issue 2*

Precision Agriculture to Mitigate Climate Change Impacts in Horticulture

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Received Date: November 18, 2020; **Published Date:** December 06, 2020

Editorial

Under harsh climate conditions, there are adverse effects on horticulture productivity, due to increasing drought, salinity, and rising temperature which reducing growth and productivity of various horticultural crops, so, scientists looking for new tools to improve crop production under these environmental stresses. Precision agriculture tools could effective way in reducing adverse effects of climate conditions on various horticultural crops particularly viticulture, vegetables, and cut flowers, and assist in improve plant growth, increase productivity, and sustain production. Precision agriculture aims to reduce different inputs and increase the profitability of farmers, it could use in determining plant requirements from different nutrients and the right time for supply as per growth stage requirements, using proper time for irrigation depending on soil moisture levels, also, use in pesticide application to use effective doses without toxicity through using innovative technology to monitor variance in soil and plant attributes like satellite-based positioning, GPS, remote sensing, crop scouting, variable rate application, automatic steering, mapping, and yield monitoring, and other various techniques used in precision agriculture, that measure and monitor soil and plant variability to calculate proper inputs with site-specific conditions.

Application of precision agriculture improves plant growth, productivity, and reducing inputs, therefore, there are numerous benefits from the application of precision agriculture for horticultural sector, like in viticulture, vegetables production under greenhouse, and cut flowers, it increases nutrients use efficiency through using site-specific in-season adjustments of fertilizer inputs to account for climatic conditions and varying yield potential differences, so, crop fertilization considered the most benefit provide from precise placement of fertilizer, it increases nutrients use efficiency through the use of site-specific adjustments during growth season for fertilizer inputs to account for climatic conditions and varying yield potential differences, for instance, in case of dressings of superphosphate, which minimizing application rate on low productive land and boosting it on the more productive areas land, applied fertilizers could be by aircraft or drone in wide area, furthermore, it increase Nitrogen fertilizer use efficiency compared with common agricultural practices. Furthermore, Crop sensors combined with GPS technology as an application of precision agriculture could provide accurate plant requirement from nutrients, these sensors could be linked with GPS so that record reading for the position and accurately mapped to inform variable-rate fertilizer application, such as in case of regulating Nitrogen application to determine which zones will respond to further applications of Nitrogen. From another hand, precision agriculture plays an important role in water-saving and reduce nutrient leaching through using variable rate technology in irrigation, which decreases drainage and accompanying nutrient leaching losses where variable soils exist under an irrigation system, also, the variable-rate technique could modified sprinkler irrigation systems with the irrigation prescription map, and affords individual control for sprinkler and programming to differ irrigation rate to the various land area under one irrigation

system which saves water and reduces nutrient loss. So, precision agriculture could be a key solution for reducing the adverse effects of climate change and abiotic stress to sustain horticulture production and increase growers' profitability.