

Protected Cultivation of Vegetables—An Approach towards Efficient Utilization of Land

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Abstract—Cultivation of vegetables year round is not possible because of extremes variation of rainfall, temperature and humidity. In addition, the biotic stresses also do not allow successful production of vegetables like tomato, chili, capsicum, cucumber, okra, cauliflower etc. in the fields mainly during rainy & post rainy season. In spite of the great importance of vegetable crops, it faces a lot of constraints like photo stress, moisture stress, temperature stress, and weeds growth, deficiencies in soil nutrients, excessive wind velocities and atmospheric carbon-dioxide. These constraints can be alleviated by adopting a unique, specialized hi-technology known as protected cultivation. Different protected cultivation structures having different temperature, humidity, UV radiation ranges and also having different cost involvement in construction of structure which may results the production of vegetables with distinct advantage of quality, productivity and favorable market price to the growers. So, the study was laid out to evaluate the prospects of protected cultivation with construction of hi-tech green house and low cost shade-net house for cultivation of vegetable year around. On experimental trials, the vegetables such as Tomato (Feb- June), Spinach beat (June-July), Tomato (Aug.-Nov), Cucumber (Nov.-Feb) were grown and the cost of production evaluated. Thus, protected cultivation could be the only one alternative to control the environment for maximizing crop productivity percent area and increasing the quality of vegetables produce round the year.