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The Feasibility of Canola Cultivation Using GIS and Climatic Indices

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Agro climatic zoning is one of the solutions to consider suitable planning for application of arable land resources and feasibility of developing an arable system in an area Producing rain fed crops can develop with minimal risk by studying the climate characteristics. So by identifying prone areas, spatial distribution and applying appropriate management methods, land production potential can be predicted and maximum utilization can be achieved. The aim of this study is determining suitable area for canola cultivation. Therefore land information, topography (slope, slope direction and height) and Meteorology data (type of climate, the average rainfall and the average temperature) of the area were collected and analyzed in GIS environment. Also suitable temperatures and precipitation probability were prepared to evaluate ecological needs of Canola based on the climatic conditions. After preparation, the results of zoning agro climatic showed this study area in dry land areas divided into four groups:

1: suitable group: 100-75 percent probability of optimal conditions with an area of 42.96 percent of the arable land area

2: middle group: 50-75 percent probability of optimal conditions with an area of 35.38 percent of the arable land area

3: weak group: 20-50 percent probability of optimal conditions with an area of 21.65 percent of the arable land area

4: unsuitable group (Non-agricultural): with an area of 40.85 percent of the arable land area

According to the acquired results, the most important limiting factor in producing Canola is moisture. The next limiting factor is land slope in producing Canola.

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