

USE OF GIS TO PRODUCE SUITABILITY DIGITAL MAPS FOR THE AREA OF EAST SAADIA FOR BARLEY CULTIVATION.

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ABSTRACT

This study was carried out to determine suitable of climate and soil factors for growing Barley in area of east Saadia that located between latitudes 33° 52 and 33° 13 north and longitudes 45° and 45° 10 east and is bordered to the north city of Jalawla and west city Saadia and eastward public road leading to the Khanaqin and south Hemrin mountain range. All operations were performed for evaluation of climate and soil factors using a special worksheet from FAO carried out using MS Excel to connect the results with soil units. The Excel file can be used this to make a style suitability evaluation of a set of important data. And by using ArcGIS was built and correct spatial databases and metadata and linked some to create a database of the study area is ready for process analysis (as selected land characteristics LC and the requirements of field crops CR) within the assessment and classification of current and future suitability of climate and soil factors to growth Barley, then export the results to ArcGIS program for producing digital maps and calculate the area of each class of suitability, as well as use other software such as DEM program for slope calculate. The results of the evaluation showed high suitability S1 of climate factors to Barley cultivation. The study found suitable land for the cultivation of this crop is below the level of agriculture and basin furrow irrigation showed very suitable for the cultivation of Barley S1 (7712) hectares percentage 34.75%, moderately suitable S2 (8568) hectares percentage 38.61%, marginally suitable S3 (3021) hectares, percentage 13.61%, currently unsuitable N1 (3613) hectares, percentage 16.28%. While below High level of management with full mechanization recorded, S1 (13367) hectares percentage 60.23%, moderately suitable S2 (7892) hectares percentage 35.56%, marginally suitable S3 (3021) hectares, percentage 13.61%, currently unsuitable N1 (1635) hectares, percentage 7.37 % respectively.

Key words : Suitability, Digital Maps, GIS.

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