Journal of Novel Applied Sciences
Available online at www.jnasci.org
©2015 JNAS Journal-2015-4-2/173-181
ISSN 2322-5149 ©2015 JNAS

Qualitative evaluation of unique appropriation of soil to planting irrigates wheat of area of Saleh Abad (case study: Ilam province)

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ABSTRACT: The main objective of the present study is a qualitative assessment of land suitability of the soil for planting wheat in Saleh Abad region. The study area is located in the mehran county in the south of ilam provinve. In this study has been used of 3 steps Collecting and processing needs of climate and land characteristics, Wheat needs assessment and Determine the qualitative land suitability class for Qualitative assessment of land suitability. The result of current paper showed that: Class assessment of regional climate was proper for irrigated cultivation wheat, The main limitation of the region have included the plaster, lime scale, PH, depth and texture, percent sand, slope and topography, In terms of profitability, wheat production is highest in the region. Land physical evaluation results show that there are two types of soil in the study area a high percentage of gypsum plaster and the other with a relatively low percentage. Qualitative assessment of the suitability of land into three simple constraint method, intensity and number of parametric limits has been quite near another.

***Keywords*:** Qualitative evaluation, unique appropriation, wheat.

INTRODUCTION

Soil is one of the natural resources and maybe is most important substructure of every civilization and its bases and efficiency indicate the progress or fallen down of a society. Optimal and constant using of soil is possible in every condition that its resources are study accurately and a complete understanding of its features is established. So it is necessary that the scientific and basic studies about soil been more in attention to tightness and making reasonable the frames of further designs and studies. (Bai Bordi, 1992). Studies about identifying the soil is used as a base to perform studies related to optimal using of territorial resources such as agriculture- natural resources- civic programming and environment. So performing research programs in mentioned fields is dependent on quality of soil designs. (Gholizadeh, 2000). In studies of evaluating the appropriateness of agriculture grounds, he units of soil designs are considered as unit of territories. So the bases of these studies in each area are study and identify the soil of that area. In real mean, the studies of evaluation the appropriateness of earth made implicational the soil studies to considered uses. (Rostami nia, 1998). Constant agriculture is done when territories were classified to various uses based on appropriateness. (Ayobi & Jalalian, 2005). Our soiling get the dynamicity and implication aspects when in a soiling project, beside to determine the type of soil and providing its design, we able to indicate the pattern of optimal planting to farmers, (Giwy, 1996). The qualitative evaluation method to appropriateness of territory to a specific plant is based on areal requirements and territory characters of each product and adaptation of these requirements with characters of territories. The importance of evaluation studies is including optimal using of territory sources in a way that not lead to terminate it and other one is getting the appropriate profit. So the identifying potential and performance abilities can be effective in type of using the territories. Stable and appropriate using of soil is possible in conditions that complete familiarity was accept from it. Increasing population and limitation of usable territories leads to correct use of territories by modern human and this programming must be in a way that the

resources be protected to future people. Inappropriate using of territories leads to destroy natural resources, termination of resources of territories, poverty and other social problems. Territories are one of the treasury resources. Our society must be careful about damaging to territories and using them must be based on their capacities and by considering maintain of ecosystem. (Roziter, 2000). In this way, one of the areas of Ilam province that needed to accurate studies is plain of Salehabad in Mehran city and in south part of Ilam province. To appropriate using of production resources in plain of Salehabad, performing some studies of developing the agriculture in mentioned plain was done by consoler engineers that were done by river of Godarkhosh and rainy irrigation system. Since almost all territories of area were dry farms, so convert them to irrigate ones required enough studies bout the soil.

Purposes of the study:

Main purpose of the present study is the qualitative evaluation of territories and their soil in area of Salehabad to irrigate planting of wheat.

Specific purposes:

1-collecting and processing the areal needs and earth features
2-determine the needs of irrigate wheat
3-determine the qualitative classes of appropriateness of territories.

Research history

One of the developed methods in studies of Fao is evaluating system of territories of Zambia that is to dry farm territories and studies are overall level and semi interpretation. The final class of appropriateness of territories is determining by limitations of soli and area and seven final classes of appropriateness are getting by combining them. Jong (1977) based on directness of Faeo studied the developing territories and performed a case study in Malavi. Jong introduced four levels to management including: traditional- semi progressive- progressive and optimal that were separated based on types of seed, fertilizer and its amount and making standards of planting and so on. Management units of soil in this study were separated based on geology, the height of earth, raining mean, plant covering and soil. Jalalian (989) in area of Talandasht of Kermanshah Show that most important limitation factor to produce wheat is percent of sands in depth and surpass. During 1990 soiling study was done by research station of Mat Dapili in Australia by territory resources. Accepted information in this study was used to evaluating the appropriateness of this station to agriculture. In this study, some suggestions were indicate to control sourness, erosion and management of potential rates to flood, type of irrigation, sub ground water level, soil limitation, wild animal needs and using territories as pasture. Obtained information in this study were used in performing the programs of agriculture part that they guarantee the fertilizing programs of station. Chi nen (1991) in a study that performed in area of Zambia, evaluate production to every class of territory and then the results were compared with al amount of production. Obtained results show that there is a meaningful correlation between real production and predicted production. The test of K. Stay indicated that beside to positive correlation between real productions and predicted one, there are a meaningful differences between them. The difference between two products can be related to management level of farmer, because differences of some factors such as planting, fertilizing and control disease lead to differences in production. Main challenges of programming to using territories, protection of biophysical potential of territory and soil and also variety of agriculture using and preventing destroy the environment and developing the constant systems (Gas, 1993). Seyedjalai (1999), reported the qualitative appropriateness of area of Mianab, Shoshtar from Khozestan province in four methods of simple limitation, number and rate of limitations, second root of evaluation and story that most important limitation factors of wheat are areal limitations, lime, fencing and sourness of soil. Also in this study the potential of produce irrigate and dry farm wheat in various units of territories were calculated by two methods of Faeo and opt. Farajnia (2001) reported appropriateness of territories of dam of Satarkhan in Ahar to planting irrigate and dry farms of wheat, alfalfa, beet, corn and pea by three methods of simple limitation, the method of sharp number and parametric method of second root that method of second root had better adoption in compare to other two methods. By developing various methods of soil and creating software, some methods were indicated to evaluation in area scale either less cost and more accuracy in programming the territories to optimal using. (Dlaroza ,2004). Darvish (2006) performed three study of appropriateness of territories of Baraka shore by development of one km^2 in Egypt to planting wheat, potato, alfalfa and orange. After combining data by GIS, appropriate plans were indicate to all studied products to developing constant agriculture. Based on obtained results, mentioned soils have high appropriateness to planting wheat, potato and oil seeds and to alfalfa a n oranges have less appropriateness. One of the ways to optimal using of territories and preventing their termination is identifying the capacity of production and selection appropriate production to planting. The evaluation of territories is

a reasonable approach to access to this aim. (Farajnia, 2007). Predicting of territory to special using called the evaluation of territories and its aim is determine the capability and talent of territory to identified using such as agriculture, forest, park, engineer implication and protection from environment. (Bgherti Badaghabadi, 2008). One of the effective qualities in using territories is possibility of danger of damaging territories. Most important danger of damaging in studied area is erosion. Since measuring erosion usually has not high accuracy, the studies indicated that mineral carbon can be an appropriate index from damage to territory such as erosion. (Rjan, 2010).

Baghrifam l (2011) indicate the effects of tendency and position of declivity as important factors of changes in mineral carbon in territories of Bojnord. Mehnat kesh (1993) in area of Shahr Kord indicated that the area is appropriate to planting the wheat. Qualitative appropriateness of territory show that to planting irrigate products such as wheat and corn, physical characters of soil has more limitations and in majority of territories there is problem of more lime and in some units more depth and sureness is problematic. Baxgir (1997), in area of Talandasht of Kermanshah province indicated that most important of physical characters are limitless to produce wheats and also in some units the problems of sureness are exist. Majid Bameri (1977) in area of Talandasht indicated that regarding to paper of qualitative appropriateness show that it can removed the problem of sourness in soils of Iranshahr, Zeinodini (1992) studied the evaluation of territories to wheat in all areas of Kerman province. The results indicated that classes are variable based on limitation method from s1 to N1 and parametric method from S1 to S3 and some major limitations in produce wheat in this area is soil structure. A study with aiming qualitative appropriateness and quantitative features was determined to important productions in plain of Shirvan that is including some productions such as rice- wheat and potato. The stages of performing are areal. The results of evaluating the qualitative conditions indicated that quantitative classes in higher level to qualitative ones. (Rostami nia , 1999).

MATERIALS AND METHODS

General condition of area

Position and development

Studied area is in Ilam province in west of Iran and in Mehran city. Studied area with 5500 hectare in plain of Salehabad between 17-46 to 5- 46 eastern lengthen northern width is in limitation of villages to mountain territory and mountain of Mahor around the plain is as following: in northern toward Sarney and in east is attached to Hichdaneh and by south is attached to Salihabad and Golan and from east attached to Rica village and Khalifeh mountain.

Area

In plain of Salih Abad with height of 630 meter in sea level there is not climate station. The nearest raining station that has adoption with climate of area. That its statistic is related to 2002-2013, studied area is member of desert warm area and has warm and long summer and short and middle winters and it is rainy. Annual rain rate is 298/4 mm annually and maximum of it is 712 mm and annual mean is 423/9 mm. based on design of power ministry and rain amount between 400 to 500 ml during years.

Agriculture

The plain of Salehabad because none achieving to enough water is as dry far. In detail parts, the sub ground water and shaft to planting the water planting. Main productions of wheat area and dry farm and irrigate planting of alfalfa, rice, tomato and so on. In total of 1660 hectare of territories is 640 hectare without planting, 80 hectare of irrigated farm and 940 hectare of dry farm.

Chemical quality of irrigation water

The area of irrigation that was studied is device of river of Khoshgodar with creating pomp age was considered. The water quality of this river in station of Rica is as following:

Acidity is variable between 7/4 to 8/5, The ability to electric conduction is variable between 700 to 1500 micro mouse the ratio of sodium between 1 to 3/35 is variable. So based on classifying, the water is member of c3s1 that in view of agriculture is usable. Cultivated samples in river with volume of more than three meters in second have high quality to agriculture and with less volume than 3 meter has fewer qualities.

The position of sub ground water and fencing of territories Sub ground water in present time in all points in not any limitation in fencing, in totally the quality of present shaft to appropriate agriculture and sourness was not observed.

Research method

Since special pictures of studied area is not accessible, so by using natural plans in scale of 1:20000 was combine of its lacks and geographical office of army that was convert from 1:50000 to scale of 1:20000 and basic plan was provided. The place of profiles and drills were determined and sampling on earth.

The method of desert studies

Desert studies with destiny of 20 points were studied in every 1000 hectares and approximate distance of 700-750 meter that is including 10 profiles and 10 drills and by using the natural plan. In this study totally about 110 points were studied that was including 67 profiles and 41 drills and about 330 samples were sampled. After creating profiles, their interpretations is based on instructions of profile and national center of planning of America soil (2012) performed. Facial characters of territories such as main declivity and detail ones, flat and high, water erosion and other required information were recorded in pages of soil interpretation. Elementary experiments such as indicating soil texture, sourness' and PH and rate of spoil salt on soil samples were performed and it is to determine the certain possibility of control profiles and limitations of changes in above factors in studied areas were determined. To ranking the soils of each series in American ranking system (2010) were used in familiarly was used and by complete classifying of WRB in cooperated. (2006).

Experimental studies

Physical and Chemical analysis on soil samples and water all are in soil experiment and water of Golrang in Ilam was performed. To experimental studies the current methods were as following:

PH of the soil: the method of glass electrode

-the ability to electric conduction: by using device of measuring conduction in extract of soil (Richards, 1954)
-Carbonate Calcium: the method of complex metric (Nilson, 1982)
Gravel: Stun method
Soil texture: hydrometric method (biocos, 1962)
Adducible azote: state ammonium method (Martin & sparkez, 1985)
Adducible phosphor: Olson method (olson & Samers, 1982)

Collecting agricultural data to product of wheat

In this stage, to accepting some features such as time of planting, time of cultivation, types and date of performing various implications and some information about native farmers and experts of agriculture organization were collected. To determine the various stages of growth the wheat and corn in first degree, above exports were used and also to wheat product the reports of center of agriculture in Ilam were used and corn was derived from M.A degree thesis of Mehran area was used.

Method of qualitative evaluation of appropriateness of territories In this method to study the evaluation of appropriateness of territories three levels including area needs, process the area needs and earth features of measuring needs of wheat and determine the qualitative class of territories were used. It means that accepted data of this study were compared by universal patterns and were ended by an appropriate class of territories.

RESULTS AND DISCUSSION

In this study three series of soil including Shotoran, Kalak and Salehabad were studied.

The face characters of soil of Shotoran

Declivity and flat, total declivity is less than 2 percent to 2-5 percent and side declivity is 2-5 percent and sometimes high or low declivity. Sands in soil have level of 15-35 percent and in some territories are 35-75 and levels of soil in general have 35-75 percent of sands. Its water erosion is variable in low to relative high, the permeability ability is in middle level and its natural fencing is appropriate. Early Martials of it are sedimentary materials. This Seri of soil has four separated units as following:

Sands in soil have level of 15-35 percent and in some territories are 35-75 and levels of soil in general have 35-75 percent of sands and its territories are 40 hectares or 0.72 percent.

Sands in soil have a middle texture with total declivity of 2-5 percent, level of 15-35 percent sands and many flat and rise territories that its water erosion is 700 hectare or 12/73 percent.

Sands in soil have a middle texture with total declivity of 2-5 percent, level of 15-35 percent sands in superficial soil and water erosion of 200 hectare or 3.64 percent and many flat and rise territories that its water erosion is 700

hectare or 12/73 percent. The results of analyze in laboratory in soil of Shotoran in area of Saleh abad is indicated in table 1.

Table 1. results of analyzing of laboratories of soil sample of area of Saleh abad (soil Seri 1, Oshtoran)

Depth (cm)	Horizon	Sand 2-0/05	Silt 0/05 - 0/002	Clay <0/002	Texture	SP	$Ece\times10^3$	Soil acidity PH	Percent of mineral carbon %OC	sand Texture %
0-20	AP	25.12	47.88	27.00	L.	37.98	*0.63*	*7.5*	*0.55*	*30*
20-80	BK1	*25.56*	*38.28*	*36.16*	C.L.	49.80	0.43	7.9	0.19	40
80-130	BK2	20.56	43.28	36.16	C.L.	48.33	0.57	7.8	0.17	50
Depth (cm)		Total N p.p.m	Ava.p p.p.m	Avd.K.P.P.m	(TNVCACO3%		SAR	Soluble cations (meq/L) $Ca^{++}+Mg^{++}$	Na^{+}	
0-20		700	2.8	160	40.00		0.14	8.00	0.28	
20-80		600	2.6	80	56.25		0.21	6.00	0.36	
80-130					58.00		0.23	6.00	0.40	
Depth(cm)		Present water Field Moisture %		Bulk Density Gr/cm 3	Particle Density Gr/cm^3		permeability m.m/hr	Class	%Total porosity	
0-20		*22.33*		*1.46*	*2.64*		*3.25*	slow	*44.70*	
20-80		-		-	-		-	-	-	
80-130		-		-	-		-	-	-	

Facial characters of soil of Kelk

Total declivity is less than 2 percent to 2-5 percent and side declivity is 2-5 percent and sometimes high or low declivity. Sands in soil have level of 3-15 percent and in some territories is 35-75. Its water erosion is variable in low to relative high, the permeability ability is in middle level and its natural fencing is appropriate. Early Martials of it are gravel and lime materials. This Seri of soil has three separated units as following:

soils of Kelk with a middle texture level and total declivity of 2-5 percent, side declivity of 2-5 percent have gravel material in depth of 80-120 cm and it is 310 hectare or 5/64 percent.

soils of Kelk with a heavy texture level and total declivity of 2-5 percent, side declivity of 2-5 percent , 15-35 percent rock in superficial soil, have gravel material in depth of 80-120 and its water erosion is 170 hectare or 7/09 percent.

soils of Kelk with a heavy texture level and total declivity of 2-5 percent, side declivity of 2-5 percent , 35-75 percent rock in superficial soil, have gravel material in depth of 80-120 and its water erosion is 120 hectare or 2/18 percent. The results of analyze of soil sample of Kelk in Salehabad were indicated in table 2.

Table 2. the results of analyzing of laboratories of soil sample of area of Salehabad

Depth (cm)	Horizon	Soil particle percent Sand 2-0.05	Silt 0.05-0.002	Clay <0.002	texture Texture	Fill percent SP	Electric conductibility $Ece\times10^3$	PH	%OC	Texture %
0-20	AP	35.12	46.72	18.16	L.	*31.90*	*0.71*	*7.5*	*0.30*	*3*
20-50	BK1	24.84	43.00	32.16	C.L.	37.32	0.74	7.7	0.19	3
50-80	BK2	0.84	67.00	32.16	Si.C.L.	40.12	1.76	7.5	0.15	-
80-140	C	F1	F1	F1	Si.C.L.	39.01	2.74	7.5	0.04	-
Depth(cm)	Phosphor Ava.p p.p.m	potacium Ava.k p.p.m		Netral materials TNVCaCo3 *0/0*	Gypsum $Caso_4 2H^2o$	SAR	Soluble cations (meq/L) $Ca^{++}+Mg^{++}$		Na^{+}	
0-20	*3.8*	*180*		*55.00*	-	*0.15*	*8.00*		*0.30*	
20-50	*2.8*	*80*		*58.75*	-	*0.17*	*8.00*		*0.35*	
50-80	-	-		*59.00*	-	*0.30*	*20.00*		*0.6*	
80-140	-	-		*30.00*	*280*	*0.18*	*34.00*		*0.57*	

Physical characters of soil of Salehabad

Total declivity is less than 2 percent to *3*-5 percent and side declivity is 2-5 percent and sometimes high or low declivity. Sands in soil have level of 3-15 percent and in some territories is 35-75. Its water erosion is variable in low

to relative high, the permeability ability is in middle level and its natural fencing is appropriate. Early Martials of it are sedimentary materials. This Seri of soil has one unit as following:

soil of Salehabad with a heavy texture, total declivity less than 2 and side declivity of 2-5 percent has 15-35 percent sands in levels and 3-15 percent sand in superficial level, has water erosion of 140 hectare or 2/54 percent. The results of analyzing of soil sample of area of Salehabad were indicated in tables 3:

Table 3. the results of analyzing the soil sample of area of Salehabad (Seri 3of soil: Salehabad)

cloud Depth (cm)	horizon Horizon	Percent of soil particles Sand 2-0.05	Silt 0.05-0.002	Clay <0.002	texture Texture	percent SP	conductability $Ece\times10^3$	acidity PH	percent mineral carbon %OC	sand Texture %
0-25	AP	21.12	48.00	30.88	C.L.	*40.37*	*1.34*	*7.5*	*0.75*	*10*
25-65	BW	25.56	39.00	35.44	C.L.	43.76	0.54	7.6	0.50	30
65-130	BK	35.56	29.28	35.16	C.L.	41.94	0.50	7.6	0.26	35

Depth(cm)	phosphor Ava.p p.p.m	potacium Ava.k p.p.m	TNVCaCo3%	SAR	Soluble cations (meq/L) $Ca^{++}+Mg^{++}$	Na^{+}
0-25	6.0	288	47.50	0.11	13.00	0.27
25-65	5.7	248	44.00	0.08	7.00	0.15
65-130	-	-	52.50	0.12	7.00	0.23

Depth(cm)	Present rate of water Water content Field Moisture%	Specific weights Bulk Density Gr/cm^3	Real weight Particle Density Gr/cm^3	penetrability permeability Mm/hr	Class	Percent of vacum %Total Porosity
0-25	*12.67*	*1.40*	*2.64*	*7.90*	Relative slow	46.97
25-65	*12.53*	*1.50*	*2.65*	*5.20*	Relative slow	*43.40*
65-130	-	-	-	-	-	-

The stages of growing the wheat during growing sickle in area of Salehabad
The stages of growing the wheat during growing sickle in area of Salehabad were indicated

Table 4. the stages of wheat growing with separated parts during growing sickle in area of Saleh abad

Length of growth	Cultivated stage	Remaining stage	Blessing date	Growth stage	Planting time	type	Type of production
25 Aban to 25 Ordibehesht	15-25 ordibehesht	10-25 Ordibehesht	10-17 Farvardin	4 Azar to 20 Esfand	25 aban	Atila 5	wheat

Qualitative measuring of appropriateness of territories

To perform the evaluation of appropriateness of territories and especially territories of wheat were compared and classes of this evaluation were determined by three methods of simple limitation- number and limitation degree and parametric.

4-12evaluationg the area to production of wheat

Regarding to this that studied area in geographical view has not large development climate characters that are required to evaluating in all territories units were considered the same. In this study since the irrigate plant of considered production must be study, the rain features were not studied. The results of evaluating the area of Salehabad to irrigate area of Salehabad to irrigate planting was indicated in table 5. The results of table show that climate of area of Salehabad is appropriate and there is not limitation in it.

Qualitative evaluation of appropriateness of territory unit of studied soils

Qualitative evaluation of appropriateness of territory units of soil of Shotoran

Based on these tables of physical characters of soil, the present of lime and sand to irrigate planting of wheat in this unit create many limitations and final class of qualitative evaluation of this unit is s3s. (Table 6).

Qualitative evaluation of appropriateness of territory units of soil of Kelk:

Based on results of this table of physical features, the presence of lime to irrigate planting of wheat create limitation and final class of evaluation of appropriateness of territory of this unit is s3s. (Table 7).

Qualitative evaluation of appropriateness of territory units of soil of Salehabad

Based on results of this table, of physical features, the presence of lime to irrigate planting of wheat creates middle limitation and final class of evaluation of appropriateness of territory of this unit is s2s. (Table 8).
In table 9, final class of evaluation the appropriateness of territory units of area of Salehabad is indicated based on parametric method:

Table 9: final subclass of evaluating appropriateness of territory units of territories of area of Salehabad based on parametric method

wheat production / Territory units	
S_3s	Shotoran
S_3s	Kalk
S_2s	Salehabad

s: indicate the limitation of physical characters of soil

The results of evaluation of appropriateness of territories indicate this that to planting irrigate wheat in view of physical characters of soil, studied area has most important limitations. In majority of territory units, the main problem is present of lime and in second degree the rate of sand.

Discussion

Physical and chemical features of rummages and study their features

Soil texture

(distribution of size of soil particle)

Texture of relative frequency of sand particles, Celt, rummage can indicated in the soil. (Bay bordi, 1992). Awareness of ratio of particles with various sizes in soil is necessary to understanding the behavior of soil and their management. (Shahooee, 2005). As it can be seen, the methods of changing are the rummage, Silk, sand and ordering trends. Relative percent mean of rummage in various depth of rummages 1 to 8 are 32/95- 27/26- 38/28- 18/13- 35/15- 33/4- 24/61-31/07. The mean of relative percent of Silk in rummages 1 to 8 are 41/89, 50/30- 47/82- 50/30- 47/82- 31/11- 47/27-41/59- 45/42-54/32 and relative percent of sand in rummages 1 to 8 is 25/15- 22/43- 13/89- 50/75- 17/57- 24/99- 29/296 and 14/6. Changes range of rummage is 16/88, silt, /27 and change range of sand is /84. As it was shown, change range of all three cases is various and large.

EC:

electronic conduct is a clear solution of salt amounts. This electrochemical character we based on it that by increasing the destiny of Cations and onions so its electric capability is increased. (Ghazanshahi, 2005). In rummages that were studied the change range of EC is /39 on meter to 3/07 on meter that in totally in each rummage, increasing trend and decreasing one is not presented. The highest rate of EC is related to C1 and rummage number 3.

PH:

The concept of PH is constant based on water molecule. When the activity of hydrogen is more than hydroxide, acidic solution is created and when activity of hydroxyl is more than hydrogen, the solution is not acidic. So the PH of soil indicates the conditions and reactions in soil. Acidic degree of soil is effective as main factor in all physical, chemical and environment features. (Shahoee, 2005). PH is a mechanism that has direct relationship with millions of soils. Usability, nine factors of feeding, relative activities, in soil and plant growth is dependent of plant growth. The PH of lime soils enter to soil because of type and factors of it, increasing the carbonate calcium and lack of raining and in o0ther words the destiny of factors of various sources such as chemical fertilizers; irrigation water and interpreting the mineral material by particles are in ranges 7/8 to 8/2. In this PH, the rate of destiny of hydrogen is very low. The rise of PH in these soils created some problems such as plant feeding especially in adducing the feed factors such as p and fe. (Malakoti, 2003). I8n soils of higher than 7, most of variables of load were removed. Ions of H+ and hydroxide of aluminum were out of union forms and were formed by exchange of ca2+ and Mg 2+ and other cations. (Shahoee, 2005). The range of changes is 7/2 percent and is almost the neutral. All tendencies are in range of neutral PH.

Gravel

The gravel that is present in many physical, chemical and mineralogical characters of soil, has effect on evaluation and classifying the territories and so it leads to aware from its exact amount to management purposes is

necessary. Gravel in maximum rate 23/22 is related to rummage number 2 and C1 and its minimum amount is related to rummage number 3 as 1/1 and is related to AP level.

The ratio of sodium adduced SAR: most rate of ratio of sodium adduced is related to rummage number 8 is 0/54 is related to BW3 and its minimum is related to rummage number 6 is 0/8 is related to BW.

Facial specific weight

Facial specific weight is the weight of volume and dry soil in natural conditions and its unit is based on gram on cm. so this soil weight is in apposite of soil holes. Its means that the increasing of holes has less adduced. For example this soil with large holes has lower lights in ratio of compress soils. So the specific soils in ranges 1 to 1/3 gram on cm. in this way light way is in range of 1/3 to 1/8 on cm. the reason of lower weight of specific weight is particles soils, existence of soils and more holes in soil. For example in silt soils that is involved with mineral material because of present of soil of more seed have fewer weights, between 1 to 1/6. In this way that sand soils are between 2 to 1/8. More amounts are related to rummages numbers 2,3,5 and 6 that is related to AP, BK2 and Bw and minimum amount is related to rummage related to number 7 in rate of 134 and related to AP.

Percent pf lime:

Overcome combination in dry and semi dry areas are carbonate calcium. In some cases of soils especially in lime types is more than /20 and sometimes is more than 80 percent of weight of carbonate calcium. The amount of calcium carbonate in soils is a known type. The reaction of carbonate calcium in soils of dry and semi dry areas is considered as better reaction in solution of soil. (Malakoti & Homaee, 2003). Auliaee (2003) know the physical and chemical soils of Iran are involved with lime stone that is affected by physical and chemical changes and create the soils with full of lime.

CONCLUSION

In totally the results of evaluation of appropriateness of territory of this study are including:

1-class of evaluation the climate of area is based on statistic and information are appropriate to planting wheat production

2-present limitations in the area to wheat production are ordering as following:

The rate gravel, the rate of lime, depth and texture of soil, the percent of sand, declivity,

3-in view of profitability, wheat production is in highest rate in the area.

4-the results of physical evaluation of territories indicate that in study area there are two types of soils, one with high percent of gravel and other with low percent of gravel and in gravel soils, creating some holes, the agriculture mechanisms were involved with some problems.

5-the results of qualitative evaluation show that territory units were same by three methods of simple limitations, sharpness and number of limitations and number of limitation and parametric methods,

Suggestions

1-in territories with sands and rocks are recommended in classes of soil, planting trees with creating depth and filling it with appropriate soil is involved with animal fertilizes and using rainy irrigation.

2-the texture of superficial soil leads to decreasing the penetration of root, cutting roots and decreasing the percent of blooming and heavy texture of classes is leads to decreasing penetration and decreasing the penetration of root, so increasing mineral fertilizations such as animals fertilizations and green and returning the remaining of soils that leads to decreasing the limitation of superficial level of soil.

3-some parts of territories of area have limitations of declivity and water erosion that in these specific factors when the depth of soil is limit, the selecting the new methods of agriculture and irrigation and soil protection regarding to economic aspects and provided required water and planting appropriate plants prevent from erosion and wasting the soil and filling the sources of dams.

4-in sandy territories or with level of soil, the increasing mineral material such as animal fertilizations get more appropriate shape and the appropriate methods of irrigation were recommended.

5- Present the big rocks in soil level. Confronting some parts of territories such as planting, remaini9ng and cultivating with some problems, so collecting them can increasing the outcome of agriculture and irrigation and so the problems were ignored. By using mineral fertilizing we can planting the trees regarding to regarding to climate conditions.

6-in some parts that soil is contain some sands or lime, the planting application must be in depth of soil and it preventing to destiny of sands and lime in soil level.

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