The Knowledge fact of vegetables farmers protection agriculture that is using techniques in soil sterilization and its importance in increase production

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Abstract

knowledge protected agricultural in soil sterilization area and determining the relation between the level of knowledge of vegetables farmers protection agricultural and each of independent factors , age ,agricultural experience , briefing of information sources ,participation in agricultural cycles ,number of green houses .In addition on diagnosis the important soil sterilization for vegetables crop .Protected agricultural in increasing production .The middle provinces were chosen to conduct this research, the ratio of %50 was taken from the following provinces(Baghdad , Babylon , Dayla , Karbala and Nagif) stratified proportion random sample was chosen from each province with %11 from vegetable farmers ; the sample value reach (65) farmers . the measurement included (21)items to measure the level knowledge of vegetables farmers.

The test included three areas , soil sun sterilization , soil evaporation sterilization ,and soil sterilization comical ; the research show of The research was amide , cognitive the level of vegetables farmers that was low knowledge level for vegetables farmers in soil sterilization area and that was relation between knowledge level of farmers with all independent variables , there search recommended that it is very important to increase the knowledge of vegetables farmers during participation in extension training specialist in soil sterilization area in addition to using extension activities that relation in soil sterilization .

Keywords: Knowledge , protection agriculture ,soil sterilization.

Introduction and problem of the research

vegetables crops plantation under the conditions of protected agriculture is one of agriculture techniques used in most of world countries including Arab countries to satisfy the consumers needs of this foods (2008 : 1) . Vegetables are considered one of the crops planted in foodstuffs such as tomato paste , jams , pickle etc and it needs to several techniques to succeed in these conditions such as sterilization ,irrigation ,fertilization disinfection harvesting and others(2000 : 2) .

Soil sterilization are fundamental process which prevent plants deceases and insects to all agricultural land in open farm or protected planting sooner or later(2002 : 3) In predicted planting its damages increases specially in plating one crop (2002 : 4) In Iraq soil there are a lot of epidemics such as fun gals of fuse run and plants nematode of

A

roots needs as well as bacterial of insects epidemics or bushes it contain flowers plants and seed of harm grasses (2000 : 5) All these epidemics make real threat for vegetables crops in protected plantation specially when its not fought by modern methods (1995 : 6) .

Soil sterilization for vegetables under protected conditions is useful method to terminate various plan epidemics in protected planting soils . there are three methods in which the sterilization by farmers : solar , chemical , evaporation (2001 : 7).Use and of them depends on farmer knowledge (2000 : 8) soil or sterilization is the simplest method also its cost is little ,evaporation use vapor through pipes of this process (2000 : 9) Methyl brome gas is the most affiant in chemical sterilization (1999 : 10)use of any method do pen's on extension by programs and activities .

A (though the importance of soil but it does not find care or concern from concerned responsible and little concern of farmers under protected conditions this research answers the following questions) .

1. what is the level of knowledge of vegetables farmers in condition of protected in sterilization of soil in general .
2. what is the relation on between farmers knowledge is protester fawning conditions and the following elements (age ,agriculture, experience ,expos to information resources ,agriculture courses and no. green houses)
3. what is the level of importance of soil sterilization of vegetables under protected planting conditions production.

Research objectives
1. Identify the level oh vegetable farmers under protected condition in soil sterilization .
2. determine the relation between level of vegetable farmers under protected planting conditions and each of the following elements , age , agricultural experience , expose to in formation participate in agricultural training and the no of green houses .
3. Identify the importance of making types of soil sterilization of vegetable crops under conditions of protected in increase of protectively .

Materials and Methods of Research
1. **the research methodology**:- use of field surfing method which locate within methodology of description to achieve of this research and each is considered suitable for obtain the data(1) .

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2. **Research Zone**:-Includes middles governorate to make the research (Baghdad , Diyala , salahedeen ,Anbar ,Babylon , Karbala ,Najif ,Wasit ,Muthana ,Qaddessia) random sample %50 of governorate for 5 governorate (Baghdad, Babylon , Diyala , Karbala , Najif)(2009: 11).
3. **Society and sample Reseach**:- Including vegetable farmers for use in plating under protected conditions the are 80 farms . proportional random sample %11 were chosen %11 with 65 individual as in table (1).

Table 1: distribution research sample

Governorate	Gross	N
1-Baghdad	130	14
2-Babel	108	12
3-Diyala	96	11
4-Korbala	124	14
5-Najf	122	14
	580	65

4. **Biding of knowledge** :-making knowledge scale passed through two stages :-

1- first stage

A- test was made including 21 test article distributed on 4 fields :soil sterilization in general ,solar sterilization , chemical sterilization , sterilization by evaporation and table (2) explain that .

Table2:distribution of scale articles on sterilization field

Field	Number articles
1-soil sterilization in general	6
2-solar sterilization	5
3-chemical sterilization	5
4-sterilization by evaporation	5
	21

B- the test articles were made by retiring to experts opinions and liter are concerning soil sterilization .

Second stage

Depend on method of choose one correct substitute among three substitutions and its weights (0 , 1) degree for correct answer and zero for wrong answer measure the level of importance of knowledge and independent element .

1. **Measuring of the level of knowledge:-** importance in soil sterilization through fifty scale contains the following levels :very important , middle important , little important unimportant , and the following weights (0 , 1 , 2 , 3 , 4) on consequence .

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2. Measure Independent

A. Age , measured by years .

B. Agricultural experience by years .

C. Expose to information resource , measure by quarter measure including the following levels always , sometimes , rare , not exposed , the following weights (0 , 1 , 2 , 3) degrees .

D. Participate in training courses concerted soil sterilization. the participation measure yes , No and weights (0 , 1) .

E. Number by green houses , measure by number of houses of the farmer .

Data collecting Instrument

Questionnaire , the data were collected from vegetables farmers in protected planting conditions throng questionnaire made for this purpose by the researcher .

Scale validity

Truth test was through introduce it after complete measure tool to a group of experts in agriculture extension to measure truth of external appearance and to soil and forming experts to measure contain truth (2).

Per – Test

Primary test was made in April 2009 a sample of 12 subjects taken from the farmers from test group and from control farmers .

The correctness and consisting of test scale test(2004 : 12) by use of half derision method . scale of exposure to information resource and importance of knowledge level Cronbach Alpha scale was used , table (3) explain that .

Table 3 : The correctness and consisting

Scale	consisting	correctness
1-level Knowledge	0.78	0.88
2- level exposure	0.82	0.90
3- level importance	0.75	0.86

Data Collecting

The data were collected an ring the period from 26/6 – 28/6 /2009 through personal interview .

Static's Methods(2000 : 13)

Frequencies ,percentage ,simple collaboration ,mathematical medium standard deviation ,firkin bank equation .

Discussion

First : Identity the level of knowledge for vegetable farmers under protected condition .

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It appear farm the results that the highest digital value was 13 degree and less degree was (4) with mathematical medium (9.24) with standard deviation(2) , table (4) explain that .

Table 4 : the distribution of subject according to farmers knowledge

Factions Knowledge	Number	%	$\overline{X}$	S.d
1-Low (4 -7)	10	15.3		
2-Medial (8 - 10)	37	57	9.24	2
3- bag (11 -13)	18	27.7		
	65	100		

Table above indicate that the highest rate for vegetables farmers was 57% at (8 – 10) degrees and less was 15.3% at (4 - 7) degrees . this indices equation of farmers knowledge in sterilization in general which is due to less farmers –how on resources that explain the important a of sterilization on process as will as little participation of vegetables farmers in training courses in sterilization process .

two : determine the relation between level of vegetable farmers under protected planting conditions and each of the following elements , age , agricultural experience , expose to in formation participate in agricultural training and the no of green houses .

1. **Age**
The results indicate that the highest age of subject was 71 years and less age was 16 years as in table(5) and we conclude that the highest rate for the subjects was on (28 - 38)years represents 37% . It appears from the results that the more age of subject the much he knowledge in agriculture .
To know if there is a collaborative relation between age of the subjects and their knowledge in sterilization Pearson coiffeuse 0.72 this indicate positive collaborative relation between the two variables on importance level 0.01 .

2. **Agricultural experience**
The results indicate that the highest experience of the subjects in vegetables planting was 39 years and less experience was 3 years in mathematical medium 11.96 , standard deviation , 6.2 years .
we conclude from table (5)that the highest rate of subject was (3 - 15)years group 72.3% and less rate at 28 – 39 on 4.6% . It appease from the results that the more experience years of subject , much he knowledge in soil sterilization .
To know if there is collaborative relation between agriculture experience of the subjects and their knowledge in sterilization Pearson simple collaboration 0.73 and that indicate appositive collaborative relation between the two variable 0.01 .

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3. Expose to in formation resources

The results appear that the highest value of exposing level to information resources was 14 degrees and high was 5 degrees with mathematical middle 8.32 degrees standard deviation 3.4 degrees .

We conclude that the high rate of the subjects was on group 6 – 10 degrees 46.1% and less rate was on 11-14 group . that mean the high resources expose to the subject the more he knowledge in protected planting to know if there is collaboration relation between exposure for information resources and knowledge of the farmer ,Pearson simple coiffeuses 0.75 . that means positive collaboration relation between the two variables on 0.01 .

4. participation in training courses

the results show that the value express on farmers participation in training courses is one degree and nonparticipation is zero as in table (5)

we conclude from table (5) that 6,2% from investigate farmers were not participated in training course specialized in soil sterilization before planting in vegetable farming in 30.8% which means that the high majority of farmers were not participated in any training courses in soil sterilization .

to know if there is collaborative relation between farmers participation in training courses and their knowledge levels spearman simple collaboration 0.68 which indicate positive collaborative relation between the two variables on 0.01

5. Number of green house

The research finds that the high value shows green houses Owen by formers were 56 and the less was two houses in mathematical medium 10.8 house and standard deviation 4.2 degree as in table (5) .

We conclude from table (5)that the high rate of the subject was at group 21-38 in 16.9 and less rate was at 39 – 56 group in 6.2% . that indicate that the majority of farmers Owen little houses that affect their knowledge in soil sterilization to know if there is collaborative relation between green house Owen by subjects and their knowledge Pearson simple coiffeuses it value was 0.81 . that indicate there is positive collaborative relation between the two variable on 0.01 .

Table 5 :distribution to the subjects according to indecent element.

Indecent element	Factions	Number	%	/	Level importance	X̄	S.d
1-Age	16 - 27	7	10.7	0.72	**	42.52	12.26
	28 - 38	24	37				
	39 - 49	17	26.1				
	50 - 60	11	17				

F

	61 - 71	6	9.2				
2-Agricultural experience	3 - 15 16 -27 28 - 39	47 15 3	72.3 23.1 4.6	0.73	**	11.96	6.2
3-Expose to in formation resources	0 - 5 6 - 10 11 - 14	18 30 17	27.7 46.1 26.2	0.75	**	8.3	3.4
4-participation in training courses	yes No	20 45	30.8 69.2	0.68	**	-	-
5-Number of green house	2 - 20 21 - 38 39 - 56	50 11 4	76.9 16.9 6.2	0.81	**	10.8	4.2

Third : knowledge the importance of making soil sterilization types for vegetables under protected conditions in increase production .

It is found that the highs value was 4 and the less was zero with medium 3.2 degrees as in table 6 .

Table 6 : distribution of subjects according to the importance of soil sterilization types

sterilization type	Number		%	- X
	important	Non important		
1-soil sterilization in general	20	45	30.8	1.8
2-solar sterilization	28	37	43.1	2
3-chemical sterilization	52	13	80	3.5
4-sterilization by evaporation	10	55	15.4	1.2

We conclude from the table that 30.8% of the subjects mentioned the importance of sterilization in general meanwhile 23.1% mentions the importance of evaporation sterilization and 80% mentioned solar sterilization seastrand 15.4 mentioned the importance of chemical sterilization the highest rate mention the importance of solar sterilization because its simple and its economic .

Conclusions

We conclude from the research the following

1. little knowledge of farmers in soil sterilization in vegetable protected farming under protected .
2. the following independent elements : age years of experience in protected planting , expose to planting information resources ,participating in specialized agriculture training courses in soil sterilization , number of green houses are the elements that have relations with vegetable farmers knowledge . as well it was a great contribution in influence of farmers knowledge .

G

Recommendations

1. Its necessary to work on increase knowledge of protected vegetable farmers . by participate farmers in training courses specialized in soil sterilization under protected conditions .
2. Increase extension activity for protected vegetables in soil sterilization through implement field discussing , sessions extension meetings .
3. Introduce funding support for protected vegetable farmers through reduce the roosts of making green houses by general body of agriculture supplementation .

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I