

Reality of the Spreading Process of Italian Ryegrass Crop in Nineveh Province

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ABSTRACT

This study was aimed to describe the reality of the spreading process of the Italian ryegrass crop: organizing, planning, implementation of the spreading, monitoring, evaluation then equipped region questioner; content and virtual validity had been certified; consisted of two parts, the first one consists of personal variables, the second consists of 68 criterion distributed on five scales, then research community involves (65) agricultural workers; 20 of them used to the first test (out of research society), value of the stability factor to each scale as following: 0.77, 0.83, 0.80, 0.76, 0.79 organizing, planning, implementation, monitoring, evaluation respectively; due to high validity. An important results which recorded: are (great) with mean 233.8 standard division 26.78, so the scale get first rank is spreading organization with mean 63.4, also found: the criterion getting first rank; organization management. most necessary conclusions are all of the factors are important factors achieve a strongest role in calculation Italian Ryegrass crop spreading to agricultural workers.

Key words: evaluation; implementation; monitoring; organization; planning.



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INTRODUCTION

The efforts of progress and development should continue, concerned on different technologies; different individuals; fields (Anhar, 2025), we could define spreading necessities: are crucial; important at level of the scientific outcomes as controlled other following procedures. So should be involve the programs of qualification and training work ethics to the agricultural workers then follow it to increase quantity of the work and its coefficient in the agricultural institutions (Cotswold, 2023), its importance that the extension organization has independent operational budget on all levels, and to be distributed to the terms and aspects of exchange of field activities, the agricultural institutions must be appropriately educated of how highest to apply the new opinions (Challob, 2020), also there are many difficulties connected with technologies transmission to the farmers, also mentioned (Anhar, 2025), it showed that high level of

difficulties size; and most important problems were management, there are developments in the responsibility of rural agricultural extension to keep on speed of recent technological progresses to deliver the beneficiaries with exact scientific information (Khalaf, 2023), also research indicated to design; a recent and expanded political agenda regarded with agricultural extension as well as design a platform to reassure the good active dialogue (Al-Mashhadani, 2020), and it necessary to including the agricultural extension agents in annual plans, providing him extension services and provided activities because of there are many reasons don't allow breeders to use technologies as: lack of true plans; spreading technologies don't appropriate with ability of cultivators and breeders of animals; absence of diffusion instructions; lack of the trained specialists (Muktar, 2018). We could define spreading necessities: are crucial; important at level of the scientific outcomes as controlled other

following procedures, also on Iraqi level the number of the extensions and training activities are very little by extension specialists, as mentioned, there are some important criteria and area some of these take it when we study development of extension services and the extension staff, also demonstrated from study of, there is a weakness of farmers and knowledge farmers about face climate changes and showed that there are not use recent practices and sustainable in their farms (Hussain, 2021) and demonstrated from study of that; although from the low the support presented and produced to the farmers but there are clear different between supported and not supported governorate to the corn farmers in Iraq at the year 2019. That is to reach to the real concepts; sustainable improvement, active plan to develop the agricultural workers (Salman, 2020), and there are different between the crop final of green fodder and dray that is when cultivate barley individual and mixed with other forage crops. Italian ryegrass is food quick source and nutrition to the livestock also to most wild ruminants, it uses to silage and haylage and stemmy hay crops with high quality (Salman, 2019), it follows grass family: poaceae so ryegrass is most diffusion between the rest and it grows in winter and early spring also it reproduces by seeds. Green fodder agriculture is one of the most essential program implemented it living supported to the returnee farmers in rural and semi-urban, so Rigrass is most diffusion between the rest fodders which had been divided to farmers in this province since 2019 and continuance yet (Saleh, 2023). So we should planting fodder crops to resistant the weather conditions and climatic fluctuations, there is a very necessity to deliver the majors agricultural workers about matter of agricultural fodders to the vital species advantageous in provision and planning and application to the techniques spreading since we reaching to highest level of productivity and production and supporting this crop (Salman, 2019). The necessary aim of this research: Description the Reality of the spreading process of the Italian Ryegrass crop: organizing- planning- implementation of the

Spreading- monitoring - evaluation in Nineveh Governorate; it has been completed by sub aims:

First - Assessment the description the Reality of the spreading process of the Italian Ryegrass crop by the agricultural workers in Nineveh Governorate in general

Second - Arrangement the research criteria which concerned with description the Spreading process of the Italian Ryegrass crop: organizing_ planning_ implementation to the Spreading_ monitoring _ evaluation in Nineveh Governorate

Third - Classify the order degree of the sub-criteria of description the Spreading about the Italian Ryegrass crop

Fourth - Certain the differences in; description the reality of the spreading process of ryegrass crop affording to following factors: the degree in office work; certificate getting it; specialty in agriculture extension; period of service in office; the activities of participation to cultivate Italian Ryegrass crop

MATERIALS AND METHODS

Descriptive approach had been used because it is most appropriate to describe data of reality of the spreading Italian Ryegrass, which have been sequenced according to their Means of its scales, to achieve these objectives a survey has been prepared. a questionnaire was prepared to collected data of research which consisted of two parts , first part consisted of personal factors : the degree in office work: (1) agricultural engineer assistant (2) Agricultural engineer (3) Oldest agricultural engineer (4) Engineers president assistant (5) Engineers president (6) Oldest engineers president (7) expert, certificate getting it: (1) certificate of institute (2) Certificate of college (3) Certificate of Master (4) Certificate of ph. D ,Specialty in agriculture extension: (1) Specialist of agricultural extension (2) Not specialist of agricultural-extension, period of service in office: (1) Few years (2) Median years (3) Big years ,the activities of participation to cultivate Italian Ryegrass crop: Data of this variable had been getting through the total sum about the collected number of days the training of each activity, then this data had been divided into four classes: (0) Do not participation (1) Small (2) Medium range (3) Large , but the following part specialist to

measure evaluation spreading results of ryegrass fodder crop consisted of five fields ;each field scale against of it pentagon scale (very highly capable, highly capable, applied appropriately , don't highly capable, don't very highly capable) given to it the weights (5,4,3,2,1) respectively of 71 criterion in the first form, but of its final form were 68 criterion ; cancelled because of not fitting validity , validity examination has been applied of two types: apparent and content validity; validity factor was 0.78 (in pre-test sample), which was 20 agricultural workers(out of final sample total , community of research consists of 65 agricultural workers were present for the final and full it equal (100%),the degree of stability of it has been done using half_ split method then corrected by Jut man equation to each of five scale: organization scale 0.77 planning scale 0.83 implementation scale 0.80 monitoring scale 0.76 evaluation scale 0.79 this results due to high reliability coefficient moreover it could be reliant on these questionnaire scales in final

sample collection. Statistical methods were used: Kruscal-Wallis; percentage; Mean; Z-score Frequency; Man-Witney.

RESULTS AND DISCUSSION

First-Assessment the description the reality of the spreading process of the Italian Ryegrass crop by the agricultural workers in Nineveh Governorate in general .The theoretical range was (68-340) also it is illustrates in the Table (1) percentage of high class is the first 66.15 % from workers, they have a large of evaluation of description the reality of the spreading process , while the ratio **27.69** % is in the second and the last ratio **6.15** % from workers .Then there are many studies to constraint the efforts and direct it to support the extension work continuously (Hussain, 2021),it should be effective response to the agriculture challenges is considered a national task requiring a departure from traditional work; it is not an appropriate option .and there are some differences in the used information sources which means that all methods used from workers were important (Salman, 2019).

Table1. Distribution of workers affording to description spreading process reality this fodder crop

Classifications	Standard score(Z)	Number	Ratio
Little	Fewer than -1	4	6.15 %
Middle	(-1 , +1)	18	27.69 %
Great	Further than +1	43	66.15 %

Mean = 233.8 S.D. = 26.78 Total = 65 Max = 272 Min = 200

Pure data had been distributed according to Z-score (standard score) that to be far away of measurement errors, as well as divided in three classifications ,first classification named (Great) which be over from (+1) while second classification named (Middle) which be between two value (+1,-1) at finally the third

classification named (Little) which lowest from (-1) In addition to clear in Figure (1) classification (Great) is formed high category , thus the description spreading process reality is very big to improve and progress them skills and knowledge about technologies spreading to others.

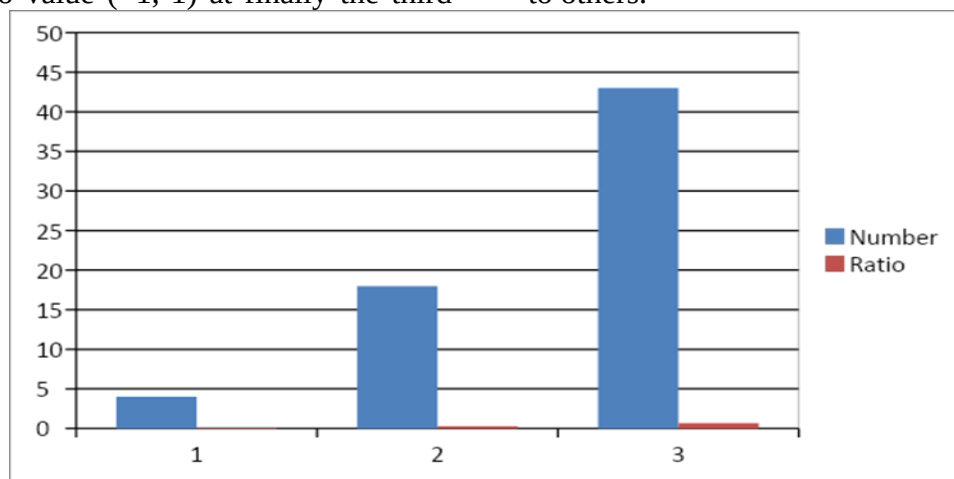


Figure 1. Ratio of the distribution of workers affording to description Spreading process reality Ryegrass

Second-Arrangement the research criteria which concerned with description this process of the Italian Ryegrass crop: organizing, planning, implementation to the Spreading, monitoring, evaluation in Nineveh

Governorate Province: as clear in table 2. upper value appeared in description Spreading process reality is Spreading organization, mean of it (63.400) with first Rank as exposed at the Table (2):

Table 2. Arrange scales of measurement according to its Mean

Scales	Mean	Rank
Spreading organization	63.400	1
Spreading planning	60.400	2
Spreading Implementation	20.600	5
Spreading monitoring	39.800	4
Spreading evaluation	49.600	3

Third- Classify the Rank degree of the criteria of description the Spreading about the Italian Ryegrass crop Table (3) arrangement criteria following to the criteria affording to its Mean this study agreement with (Saleh, 2023) when Compare between criteria and surveying. It show that many domains related with

diffusion and development of fodder technologies are: organization ;planning ; implementation of diffusion; monitoring; and evaluation ,this research concluded that most evaluation suitable criteria are compatible with the transfer of smart agriculture in Iraqi agricultural systems as being partially applied.

Table 3. Arrangement criteria following to the criteria

Seq.	Criteria following to the criteria	Mean	Rank
24	Organization management	24.0	1
3	Goals of organization	21.0	2
12	Duties and tasks of participating entities through Spreading	20.20	3
10	plan activities	19.40	4
7	chart of organization	16.20	5.5
2	The personal evaluators	16.20	5.5
8	The personal followers	15.8	7
19	Organization of monitoring	15.6	8
6	Plan objectives	12.60	9
5	Plan existence	12.40	10
22	Organizing of the estimate	12.20	11
25	Supporting	11.20	12
9	Duties and tasks of organization's workers	8.60	13
1	Supplies of Spreading	8.40	14
13	Evaluation type	8.0	15.5
17	The participation in planning a plan	8.0	15.5
14	Establishing the work of organization	7.60	17
16	Periods of Spreading	4.80	18
18	Location of Spreading	4.60	19
28	Determined of monitoring period	4.40	20
23	Process of continuation	4.20	21
27	Involvement of aim viewers	4.0	22
4	Type the activates and its number	3.80	24
21	Evaluation the determined results	3.80	24
26	Evaluation the graphic results	3.80	24
15	Developing from results of evaluation	3.60	26.5
20	The coordination with parties of participation	3.60	26.5
11	monitoring objective	3.40	28

Fourth- Certain the differences in description the Reality of the spreading process of

Ryegrass crop according to following factors : the degree in office work; certificate getting

it; specialty in agriculture extension; period of service in office; the activities of participation to cultivate Italian Ryegrass crop: as it is showing in Table (4) **The degree in office work:** Data had been distributed in to classes according to the degree in office work showed that ratio percentage in agricultural engineer assistant 0% agricultural engineer 40% oldest agricultural engineer 0% Engineers president assistant 20% engineers president 20% oldest engineers president 20% expert 0% it revealed that a significant differences in Spreading of the Italian Ryegrass crop to degree in office work ;value of calculated Kruskal Wallis test 38.61, at significant level (5%),then this outcome dissimilarity with research hypothesis that might because the workers degree in office work in the institute perhaps be run by supervision guidelines ,there are various transportation in institute centre contrast with other region this due to encouraging Spreading of the Fodder this crop

Certificate getting it: while when distribution workers according to certificate getting it showed a high percentage at education certificate of Master (50.76%) followed by a classification of college of (40 %) followed by Ph.D. certificate of (9.23 %); value of calculated Kruskal_Wallis test was (28.94); this value be significant at level (1%) this outcome different with hypothesis of research; that because of during they getting new facts , through the different stages ;then they gotten experiences whatever they increased of scientific certificate.

Specialty in agriculture extension: Agricultural workers distribution according to specialty in agriculture extension, showed that (15.38%) of workers specialist in agricultural extension, (84.61%) of not specialist in agricultural extension; in addition to a significant difference in Spreading of this crop

by the agricultural workers according to this variable; value calculated of Man-wittney test was (605.0) at level (1%); therefore this result be dissimilarity with the research hypothesis which putted ;that because an experience for a long time in this domain ,participating their specialism , make agriculture workers practicing their role.

Period of service in office: workers had been distributed according to it; indicated that; classification of few years (20%), then classification of median (44.61%) finally the big period of office services years (35.38%); Minimum value (12) years; Maximum value (24) years; Mean (18.80) Standard-Deviation (1.61). As well as had been determined the differences in Spreading of Ryegrass, then significant differences had been appeared according to period of service in office at level (1%), using Kruskal Wallis test, calculated H (42.40).

The activities of participation to cultivate Italian Ryegrass crop: the Maximum value (240) the Minimum value (5) the Mean value (69) the standard deviation (87.97) ;then when agriculture workers distributed according to their activities in Spreading of this crop (15.38%) of the workers don't have any activities ,(18.46%) have a few activities (23.07%) have medium activities ,(43.07%) have a big activities, It tells significant difference in Spreading of Ryegrass according to activities of participation to cultivate Italian Ryegrass crop, then value of H calculated (42.19) that by use Kruskal-Wallis Test was at significant level (1%) this different with hypothesis of research, and means that agricultural workers who have various activities ,have more requirement to view towards development and updates to succeed more spreading of Ryegrass.

Table 4. Differences in the evaluation of the description the Spreading of the Ryegrass affording to some factors

Factors	No .	%	Median	average rank	Calculated H	Calculated z	P Value
The degree in office work							
-agricultural engineer assistant	-	-	-	-			
-Agricultural engineer	26	40 %	256.0	48.2			
Oldest agricultural engineer	-	-	-	-		-	0.05 *
-Engineers president assistant	13	20%	200.0	11.5	38.61		
-Engineers president	13	20%	227.0	34.2			
-Oldest engineers president	13	20%	214.0	22.8			
Certificate getting it							
-certificate of college	26	40 %	256	48.2		-	** 0.01
-Certificate of Master	33	50.76%	214	22.8	28.94		
-Certificate of Ph.D.	6	9.23 %	232	33.0			
Specialty in agriculture extension							
-Specialist of agricultural extension	10	15.38%	220.5	14.97			** 0.01
-Not specialist of agricultural-extension	55	84.61%	1.98	45.10	-	605.0	
Period of service in office							
-Few (12-15) years (1)	13	20%	272.0	55.3		-	** 0.01
-Median (16-19) years	29	44.61%	256.0	41.1	42.40		
-Big(20&more) years	23	35.38%	200.0	11.5			
The activities of participation to cultivate_Italian ryegrass crop							
-Do not participation	10	15.38%	214.0	22.8		-	** 0.01
-Small (5-83) degree	12	18.46%	200.0	11.5			
-Medium range (84-162) degree	15	23.07%	256.0	41.4	42.19		
-Large (163 and more) degree	28	43.07%	272.0	55.3			

** significant at 1 %

* significant at 5 %

CONCLUSION

The spreading of this crop was very good; so there is a need to enforcement it with new

information and modern technologies to develop planting the Ryegrass crop spreading to the workers in Nineveh

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CONFLICT OF INTEREST

The authors declare that they have no conflicts of interest.

AUTHOR/S DECLARATION

We confirm that all Figures and Tables in the manuscript are original to us. Additionally, any Figures and images that do not belong to us have been incorporated with the required permissions for re-publication, which are included with the manuscript.

Author/s signature on Ethical Approval Statement.

Ethical Clearance and Animal welfare

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AUTHOR'S CONTRIBUTION STATEMENT

Asmaa Zuhair Al-Hafidh and Ahmed Hamdan Lafta were responsible for designing the research.

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واقع عملية نشر محصول عشب الريحاس في محافظة نينوى

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المستخلص

استهدف البحث التعرف على واقع عملية نشر محصول الريحاس العلفي: تنظيمًا وتخطيطًا وتنفيذًا للنشر ومتابعة وتقويماً وذلك من خلال إعداد استمارة استبيان ميدانية للتأكد من صدق المحتوى وصدقها الظاهري تكونت من جزئين ؛ الأول تضمن متغيرات شخصية والثاني تضمن 68 معيار توزعت على خمسة مقاييس , بلغ مجتمع البحث (65) موظف زراعي وبلغت العينة الاستطلاعية 20 موظف زراعي (خارج مجتمع البحث) , تم إيجاد قيمة معامل الثبات لكل مقياس وكالاتي : 0,77 0,83 0,80 0,76 0,79 لكل من التنظيم والتخطيط والتنفيذ والمتابعة والتقويم على التوالي مما يدل على صلاحية جيدة للمقاييس .اهم نتائج البحث أن تشخيص واقع عملية نشر المحصول العلفي جاء مرتفعاً بمتوسط حسابي 233,8 وانحراف معياري 26,78 وان المقياس الذي احتل المرتبة الأولى هو تنظيم النشر بمتوسط 63,4 والمقياس الذي احتل المرتبة الأولى بين معايير المقاييس المختلفة هو إدارة التنظيم بمتوسط 24,0 اهم استنتاجات البحث أن كل المتغيرات المستقلة المدروسة هي متغيرات مهمة ويمكنها أن تحقق اقوى دور في قياس نشر محصول الريحاس العلفي من قبل الموظفين الزراعيين.

الكلمات المفتاحية: تقويم؛ تنفيذ؛ متابعة؛ تنظيم؛ تخطيط.