Evaluation The Governmental Supply Activity In The Process Of Spreading Herbicides Techniques Of Wheat Crop In Al-Muhaweel Agriculture Department/Babylon Province.

Majid A. k. Al- Juboori

Chief Agricultural Engineer old ,Agriculture Babylon Department

ABSTRACT

The study aims to evaluation the governmental supply activity in the process of spreading herbicides technologies of wheat crop in Al-Mahaweel Agriculture Department/ Babylon province. The data were collected from a random sample of 60 farmers by means of a questionnaire in the interview method, as well as statistics for providing herbicides process in the Department for three seasons (2016/2017-2018/2019). The study concluded that the provided quantities of herbicides of wheat for the farmers of the department were few and very few for the above mentioned seasons, the deficit was amounted to average 17.86% and 62.15% for granular and liquid herbicides by following compared by the quantities of granular and liquid herbicides needed for control the planned area in the Dept. The study reached to conclusions such as: The Weakness process of providing the herbicides technologies of wheat crop is considered a clear indicator of the weakness of the government providing plan because there is no found effective plan for the providing of these technologies. The researcher recommended several recommendations, such us: Develop effective strategic plans in the providing process and spread herbicides technologies of wheat crop including encouraging farmers to increase areas cultivated by wheat which ensuring an increase in productivity and crop production. And the work of national production companies to produce local chemical pesticides to control wheat weeds, To reduce foreign imports of them, and encouraging local product and support prices for farmers.

Key Words: Supply activity, Spread, Herbicides Technologies, Wheat crop.

يهدف البحث إلى تقويم النشاط التجهيزي الحكومي في عملية نشر تقانات مبيدات أدغال محصول الحنطة في شعبة زراعة المحاويل/محافظة بابل. وجمعت البيانات من عينة عشوائية تناسبية مقدار ها60 مزارعاً بوساطة استبانة بطريقة المقابلة ، فضلاً إلى الإحصائيات عن عمليات تجهيز مبيدات أدغال الحنطة في الشعبة للمواسم الزراعية الثلاثة 2016/ 2019 / 2019. وقد الإحصائيات عن عمليات تجهيز مبيدات أدغال الحنطة في الشعبة للمواسم الزراعية الثلاثة 2016/ 2019/ 2019. وقد خلص البحث إلى إن الكميات المجهزة من مبيدات ادغال الحنطة في الشعبة للمواسم الزراعية الثلاثة 2016/ 2019/ 2019. وقد نخلص البحث إلى إن الكميات المجهزة من مبيدات ادغال الحنطة لمزارعي الشعبة قليلة وقليلة جداً للمواسم المذكورة ، بعجز بلغت المتبته كمتوسط %1.86 و2016 راعدة اللازمة والسائلة بالتتابع مقارنة بكميات المبيدات الحيابية والسائلة اللازمة لمتعبة عملية تجهيز تقانات مبيدات الدغال محصول الحنومة بعجز بلغت المكافحة المساحة المقررة في الشعبة. وتوصل البحث إلى عدة استنتاجات منها: إن ضعف عملية تجهيز تقانات مبيدات أدغال محصول الحنومي الحكومية بسبب عدم وجود خطة فاعلة لتجهيز تقانات مبيدات أدغال محصول الحنومي البحث المالان التراعية المساحة المقررة في الشعبة. وتوصل البحث إلى عدة استنتاجات منها: إن ضعف عملية تجهيز تقانات مبيدات أدغال محصول الحنطة يعد مؤشر واضح على ضعف خطة التجهيز الحكومية بسبب عدم وجود خطة فاعلة لتجهيز تقانات مبيدات أدغال محصول بتوصيات عدة منها: توأوصى الباحث إلى بتوصيات عدة منها: توأوصى الباحث إلى بتوصيات عدة منها: توأور على بتوصيات عدة منها: توأور عين بتوصيات عدة منها: توأور عين المزار عين على زيادة المساحات المزاري وعمل شركات إنتاج بتوريز تقانات مبيدات أدغال محصول الحنطة يعد مؤشر واضح على ضعف خطة التجهيز الحكومية بسبب عدم وجود خطة فاعلة لتجهيز تألم محصول الحنات وأوصى الباحث المالم المورة بن مزار عن عمان مبيدات أدغال محصول وأوصى الباحث إلى عدة من منواز عين من وجود خطة فاعلة لتجهيز وانشر تقانات مرار عن على محصول الحنطة بما يشجع بنوريا بنور عين على زيادة المالمات المزار عين على زيادة إلى محصول الحضائ الحامة مما يضمن تحقيق زيادة في الإنتاجية وإنتاج المحلي ودعم اسعار ووعم المركات المزار عين. ولمن مرارعين على زيادة المحلية ماعلة مالحنمة مائة ألمانيين المحنيي منها وتشجيع المنتوج المرك

growing with them (7, 17). There are more than 16 types of broad-leaved weeds such as Al-

Salijah, Khubaizah, Kalgan, Al-Masala, Al-

Madid, Al-Fajila, Umm Halib, Wild Mustard,

Al-Khabbaz, Zaywan, Zand Al-Arous, Juniper,

and others, and 12 types of thin-leaved weeds

such as wild oats, wheat, Rwita, Abu Damim,

wild barley, Thael, and others (28). The results

Introduction

The wheat crop (Triticum asetivum L.) is one of the most important food grain crops at the global level and the first among the grain crops in the world. Its grain is a main source of energy needed by man as it enters directly into his food due to its high nutritional value because its grain contains high levels of carbohydrates, proteins and starch This made it play a major role in international trade and in balancing the global economy (19). Wheat in Iraq is the first strategic crop in terms of the cultivated area and the quantity of production, where it is cultivated in large areas amounting to about 3,154,000 million acres, with a production rate of about 2,178,000 million tons, and an average yield of 690 kg / dunam (2). While the annual needs of this crop are estimated at about 4.5 million tons (18, 20). Despite the importance of the crop, the average production per unit area is still very low compared to global production (13). The decline in productivity is due to several factors, including the failure to follow the correct methods of crop management, including the selection of good and appropriate cultivars for the cultivation area, and the failure to follow a balanced fertilization system (3).In addition to the exposure of this crop to agricultural pests, especially weeds, which cause losses in wheat fields ranging from 90-40% of the total production quantity, and this percentage of impact may vary according to the types of weeds and their density and the ability of crops and cultivars to withstand that competition (14, 16). The spread of weeds in wheat fields. especially in irrigated areas, and their intense competition with crop plants for water, food, light and other factors specific to growth, leads to a decrease in yield in quantity and quality, and high control costs as well as difficulty in harvesting operations (5, 8). The weeds may drain about 50% of the amount of fertilizer added to the crop, and the weeds is a refuge for many insects, pests and other pathogens, in addition to its allelopathic effects as a result of the secretion of some secondary chemical compounds that inhibit the growth of crops

of research in Iraq indicate that weeds competition throughout the season causes a reduction in wheat yield from 13-43% (11). Therefore, the researchers worked to combat it in various methods, including the use of chemical pesticides for ease of use and quick effect, and they achieved impressive results in eliminating the weeds and limiting its damage. which led to an increase in the productivity of wheat by up to sometimes more than 50% (12, 22, 26). Many electoral pesticides are used in wheat to combat thin and broad-leaved weeds . The most important of these pesticides are: 2,4-D · Chevalier · Logran · Iloxan · Isoproturon · Metsulfouron · Triasulfuron · (Iodosulfuron + Mesosulfuron) · Tribenuron – methyl Diclofop-methyl · Fenoxapron, Tralkoxydim · Pyroxsulam · Clodinafoproparyl · Topic · Saflufenacil (25). The results of many studies showed the efficiency and effectiveness of these pesticides in controlling wheat weeds. For example, but not limited to, it was found that the use of the pesticide Diclofop-methyl at a concentration 1.44 of kg active substance/hectare has achieved high efficiency in combating the annual weeds. The use of Diclofop-methyl with 2,4-D pesticide with a time difference of ten days can achieve a controlled average of up to 90% for all types of weeds accompanying the wheat crop (1). Al-Shati (9) mentioned that the use of the Diclofop-methyl and pesticides Logran. Chevalier. The numbers of weeds were reduced by 50.9%, 53.4%, and 95.9%, and their dry weights winhibited by 49.2%, 51.9% and 96.3%, respectively, compared to the control treatment. While Ebadi and others (11) indicated that the pesticide Pyroxsulam was very efficient in controlling the weeds spread in the wheat fields.The addition of Metsulfuron and ISSN 2072-3875

Tribenuron-methyl pesticides at a rate of 10 g/ha gave a high efficiency in weed control and this was reflected in an increase in the wheat vield, which amounted to 36.9% and 42%, respectively (24). While the control percentage of wild oats ranged between 65-85% after five weeks of treatment with Mesosulfuron (23). Given the vital role of chemicals, the use of fertilizers and pesticides has increased, especially in irrigated agriculture, without considering any other considerations because the irrational use of fertilizers and pesticides is and affects uneconomical the environment. Therefore, there are attempts to reduce them as much as possible, but the greatest challenge is not simply prohibiting the use of fertilizers and chemicals in agriculture, but the challenge here is to improve agricultural practices, especially the balance in fertilization chemical pesticides and that are environmentally sound, and thus ensure high productivity and quality products and reduce the negative impact on the environment (4,6). In Iraq, all publishing activities, including the activity, processing are concerned with government institutions, in addition to the large role played by the private sector in the processing process. Therefore, the process of processing agricultural technologies (seeds, fertilizers, pesticides, etc.) in the field of wheat cultivation and improving its quality is greatly affected by the level of Performance of government processing institutions for their effective impact in the process of providing and processing agricultural technologies. Providing the appropriate agricultural technologies in terms of quantity and quality, and equipping farmers with them in a timely manner, and its sustainability are among the most important characteristics of a well-managed and organized technology dissemination program, in addition to being among the indicators of the quality of the program (10). The Ministry of Agriculture considered the dissemination of agricultural technologies in its various forms an aim and a priority means in achieving its main and central interim aims, especially increasing agricultural productivity. Raising the self-

sufficiency rate of basic agricultural products in order to achieve food security by increasing local production, and achieving its long-term aims, which is self-sufficiency in agricultural products, in a method that meets the country's growing needs of those products for the purposes of local consumption and export (21). The Al Mahaweel Agriculture Division is one of the agricultural divisions, which is described as a large agricultural area, which amounts to 106,996 dunums, and agricultural activity is practiced in it by 585 growers of the wheat crop. The average productivity of wheat in the division is low, reaching 800 kg / dunum (29), which is part of the state of low productivity at the level of Iraq. The continuous low productivity of the wheat crop in the division is a productive and economic problem for all farmers in it, in which several factors share, perhaps the most important of which is the spread of weeds in wheat fields, so we should look at this problem, study it, and diagnose its causes. And this problem raises the following question: What is the level of activity of governmental processing institutions in the field of providing chemical pesticides in combating the weeds of the wheat crop in the Al Mahaweel Agriculture Division? Therefore, research aimed Evaluate the to: the performance of government equipment institutions in the process of disseminating chemical pesticide technologies in the field of combating wheat weeds in the Al-Mahaweel Agriculture Division.

Materials and Methods

The research comes within the framework of diagnostic research that falls within the descriptive approach, as this appropriate in arriving at detailed data and facts about the needs of individuals at a specific time (15)). The research included all 585 wheat farmers in Al- Mahaweel area for the agricultural season 2018/2019. (29).A random proportional stratified sample was taken from the community of farmers with a percentage of 10% in each county with a total of 60 farmers of wheat farmers. As shown in Table (1).

No.	Counties	Number of Sample Members	Number of Farmers
1	AL-musayyab Innovation	12	116
2	AL-Findia	10	100
3	AL-Katonia	8	80
4	Abo Sdera	6	60
5	AL-Shetia	10	93
6	AL-Saeedia	7	66
7	AL-Badie AL-kabeer	7	70
Te	otal	60	585

Table 1.Number of Wheat Farmers and Sample Amount Distribution on Counties in Al-Mahaweel Agriculture Department

Source: Prepared by the researcher

In order to achieve the aim of the research, which includes evaluating the processing activity of province processing institutions in the process of disseminating wheat bush pesticides technologies for farmers of Al Mahaweel Agriculture Division,

The criterion for meeting the needs of farmers in the agricultural division of agricultural technologies for weed herbicides for wheat crop for the three agricultural seasons (2016/2017 - 2018/2019) was determined according to the appropriate quantities, types and timing.

Data collection

Data were collected from respondents in Al-Mahaweel Agriculture Division by means of a questionnaire using a personal interview during the period from May 3, 2019 to May 29, 2019. As for the data on the quantities and types of prepared wheat pesticides, they were collected from statistics, reports and interviews. Direct with officials in the Division of Agriculture Al Mahaweel.

Statistical means

Percentages, arithmetic averages, and frequency distributions were used to present and analyze the results.

Results and discussion

First. Sources of processing wheat crop weeds pesticides technologies

1. The equipped source of wheat weeds pesticides technologies for farmers of Al-Mahaweel Agriculture Division for the three agricultural seasons (2016/2017 -2018/2019) is the Public Authority for Plant Protection (an institution affiliated with the Ministry of Agriculture).and the types of wheat weeds herbicides that were prepared for the farmers of the division from the aforementioned authority: One type, which is the pesticide (Pallas) for the winter agricultural season (2016/2017), and four types of pesticides, which are (Pallas, Coldex, Konique, Atlantis) for the winter agricultural season. 2017/2018), and five types of pesticides (Pallas, Atlantis, Spotlight, Coldex, Connecur) for the winter agricultural season (2018/2019). In general, all types of these agricultural chemical pesticides are pesticides of foreign origin, Indian, French, English, American and others. They are high-quality pesticides and are distributed free of charge to farmers, and instructions for their use are usually

written on the cover of each package to facilitate the process of using them in the field and avoid their risks or negative effects (30).

2. Pallas and Atlantis pesticides are used to control the bush with thin and broad leaves accompanying wheat plants, and the best time to use them is when the bush is 2-3 leaves old.

While the pesticides Coldex and Konicure are used to control the bush of sorghum accompanying the wheat plants when the weeds is 3 - 5 leaf-aged, and Spotlight pesticide is used to control the weeds of the broad wheat accompanying the wheat plants in the field when the weeds is 3 - 4 leafaged (27, 28).

Secondly. Mechanism of processing agricultural chemical pesticides for wheat weeds

The mechanism of equipping the farmers of the Al-Mahaweel Agriculture Division with agricultural chemical pesticides for the weeds of the wheat crop in the agricultural seasons 2018/2019 - 2016/2017)). It includes eight stages, as follows:

First: - Organized by M. The Protection Unit wrote a letter to the Directorate of Agriculture of Babylon / Department of Plant Protection, in which it mentions the area to be planted for the agricultural season with the wheat crop in the agricultural division, and in which it is intended to supply the division with agricultural chemical pesticides for the wheat weeds.

Second: - The supply book is transferred in the hands of the plant protection store keeper in the division to the Babylon Agriculture Directorate, the Plant Protection Department. Third: All the books on preparing agricultural people with pesticides for wheat weeds in the Babylon Agriculture Directorate, the Plant Protection Department, are united with a letter to the Ministry of Agriculture, and it is sent by the hand of the storekeeper of the Plant Protection Department in the Babylon Agriculture Directorate.

Fourth: - The Ministry of Agriculture transfers the letter of processing the Babylon Agriculture Directorate to the Plant Protection Department to the Public Authority for Plant Protection.

Fifth: - The Public Authority for Plant Protection organizes a letter (cutting document) to the authority's general pesticide store, and it is sent to the storekeeper of the Plant Protection Department in the Babylon Agriculture Directorate in order to supply it with the necessary pesticides.

Sixth: - The pesticides prepared by the storekeeper of the Plant Protection Department in the Babil Agriculture Directorate are transferred to the stores of the Plant Protection Department in the province of Babylon.

Seventh: - The storekeeper of the prevention unit in the agricultural division shall be equipped with the necessary pesticides according to what is available from them and according to the share of each agricultural division based on the agricultural plan for the wheat crop in the division and the processing shall be through the storekeeper of the plant protection department in the Babylon Agriculture Directorate.

Eighth: The storekeeper of the Protection Unit in each agricultural division prepares the pesticides for farmers according to the agricultural plan for the wheat crop for each farmer under a transfer that includes the signature of each of the M. sector and m. Planning and follow-up unit and m. Planting Protection Unit (30).

Notes from that:

The mechanism of preparing wheat weeds pesticides for farmers of the Agricultural Division during the three and aforementioned seasons is complex and requires careful follow-up, manv procedures and routine work by the storekeeper of the Prevention Unit in the Division, which results in a longer period of time to receive the pesticides by the Secretary of the Prevention Store in the Division and then the farmers The average distance of preparing pesticides from the agricultural division to the stores of the Plant Protection Department in the province, back and forth, is approximately (80) km and the average processing time is 3-5 days if we take into account the period of work of the pesticide preparation book in the Ministry of Agriculture and the Public Authority for Plant Protection (Fig. 1), and

in general, it is a long distance and a large time, which costs the storekeeper for planting protection in the division a great effort and a long time and financial expenses related to With the fees of transporting and loading those agricultural chemical pesticides from Babylon province to the headquarters of the Agricultural Division store, This may cause a delay in receiving pesticides and then delaying their distribution to farmers in the division, and there may be a delay in using them in the field, which affects the efficiency of those pesticides in killing weeds, which is reflected in the productivity and production of the wheat crop, and then in the income and income of farmers. Therefore, weeds pesticides should be prepared well in advance of the wheat crop cultivation campaign and stored in the governorate's stores, and preserved in a safe manner, in order to facilitate their distribution to the agricultural people and then easily reach the farmers.



Figure 1. Scheme of the process of processing wheat bush pesticides from province sources to farmers

Third. Quantities of prepared wheat weeds pesticides

It appeared that the quantities of weeds pesticides for the wheat crop prepared for farmers of al- Mahaweel Agriculture Division in the three winter agricultural seasons (2017/2016 2019/2018 -) amounted to 19) liters, (460) liters, and (539) liters sequentially, with an average of (339) liters. / year for liquid pesticides, constituting (84.35%) (1.24%),(88.46%)and respectively of the quantity of liquid wheat weeds pesticides required from the agricultural division in the three mentioned seasons, with a deficit of (98.76%),

(11.54%)and (15.65%)sequentially compared to the amount of liquid pesticides required in the three mentioned seasons. It amounted to (0) kg, (72) kg, and (98.25) kg respectively, with an average of (56.75 kg/year for granular pesticides, and constitute (0%), (80%) and (83.70%) respectively of the amount of wheat weeds pesticides granular required from the agricultural division in the three mentioned seasons, with a deficit of (100%), (20%) and(16.30%) respectively compared to the amount of granular pesticides required in the three mentioned seasons, as shown in Table (2).

Agricultural season	Percentage of deficit in pesticides quantity	Percentage of pesticides providing	pesticides of quantity provided	pesticides of quantity required
3016/2017	98.76	1.24	19 Later	1530 Later
2017/2018	11.54	88.46	460 Later	520 Later
2017/2010	20	80	72 Kg	90 Kg
0010/0010	15.65	84.35	539 Later	639 Later
2018/2019	16.30	83.70	98.25 Kg	117.385 Kg
	62.15	37.85	1018 later	2689 later
Total	17.86	82.14	170.25 Kg	207.25 Kg

Table 2. Quantities herbicides of wheat Provided to AL– Mahaweel Agriculture Department for Three seasons (2016/2017–2018/2019)

Source: Al-Mahaweel Agriculture Division / Plant Protection Unit

From Table 2. It is noted that:

1. The quantity of wheat weeds pesticides prepared for farmers of the Al-Mahaweel Agriculture Division for the three agricultural seasons (2017/2016 - 2019/2018) is very small in relation to liquid pesticides, where they cover less than half of the required quantity, and few for granular pesticides, where they cover more than three quarters of the required quantity a little bit.

2. Low quantities of wheat weeds pesticides supplied to the Division's farmers and fluctuations in their quantities, where they are not in the direction of continuous increase or improvement, and are not commensurate with what they should be in achieving wide coverage of the lands planted with wheat, This causes a narrowing of the scope of the wheat weeds pesticides preparation process and a narrowing of the sustainability or continuity of its processing for farmers, and this results in several problems, including the spread of weeds in farmers' fields and the difficulty of controlling, getting rid of them or limiting them, and then continuing their competition for the wheat crop, which leads to low productivity and production The wheat crop and the deterioration of its quality, and then the lack of revenue for farmers.

3. All wheat weeds pesticides supplied to farmers are of foreign origin, and this indicates the absence or disruption of the productive capacities of province companies to produce wheat weeds pesticides and provide them in sufficient quantities and good quality to farmers at the national level, which compels the Ministry of Agriculture and the Public Authority for Plant Protection to contract with Foreign companies to meet the needs of farmers from those pesticides, Its negative effects appear in the agricultural sector in terms of encouraging foreign production at the expense of the local and not investing money inside the country in rehabilitating the infrastructure of government institutions and operating idle factories and factories, as well as the exit of hard currency outside the country, which affects the state's general budget.

4. The lack of province supply of wheat weeds pesticides. Affordable farmers go to the local markets in order to meet their needs of those pesticides, which are usually characterized by high prices, which affects the income generated for farmers.

5. Most of the poor farmers depend on the quantity of wheat weeds pesticides prepared for them, so those farmers are forced to use that quantity of pesticides for the entire cultivated area of wheat, i.e. they use pesticides in less quantity than the scientific recommendation, and its negative results are reflected in low productivity and weakness in the production achieved for the wheat crop and the deterioration of the yield its quality.

6. Poor processing of wheat weeds pesticides technologies, and this is a clear indication of the weakness of the province processing plan due to the lack of an effective plan for preparing weeds pesticides for the wheat crop.

Fourthly. Areas planted with wheat and control with pesticides

It appeared that the areas planted with wheat and the control with pesticides in Al-Mahaweel Agriculture Division for the three agricultural seasons (2017/2016 2018/2019) are much less than the area planted with wheat in the division, and it amounted to (152) dunums, (3744) dunums and (5028) dunums respectively.With an average amount of (2974) dunums/year, the percentage of (1.24%), (83.2%) and (72.22%) respectively of the area planted with wheat crop in the division for the three seasons mentioned, with a deficit of (98.76%), (16.8%) and (27.22%) compared to the area planted with wheat in the agricultural division, as shown in Table 3)

Table 3. Area cultivated by wheat and control by herbicides in AL-Mahaweel AgricultureDepartment for Three Seasons (2016/2017–2018/2019)

	Percentage of deficit in control	Percentage of area of control	Area control by pesticides	Area cultivated by wheat	
Agricultural seasons	area by pesticides	pesticides	(dunum)	(dunum)	
2016/2017	98.76	1.24	152	12243	
2017/2018	16.8	83.2	3744	4500	
2018/2019	27.22	72.78	5028	6908	
Total	62.27	37.73	8924	23651	

Source: Al-Mahaweel Agriculture Division / Plant Protection Unit

From Table 3. It is noted that:

a. The areas of wheat controlled with crop weeds pesticides are very few and are estimated at little more than one-third of the area planted with wheat in the agricultural division, and there is a large deficit in covering the entire areas planted with wheat, and this means that nearly three-quarters of the areas planted with wheat have not been allocated the necessary quantities of bush pesticides from by the competent governmental authorities in order to combat it. Therefore, most farmers are forced to resort to the local markets to secure their need for wheat weeds pesticides, which are usually high priced, and this causes a narrow range of crop weeds pesticides processing and a narrowing of the sustainability or continuity of providing them to farmers. especiallyCombating wheat weeds has become for all farmers a prerequisite for the success of crop cultivation and achieving the required productivity and production due to its spread in wheat fields, which affects the achieved productivity, the quantity of production achieved, and the quality of the yield produced, and then this is reflected on the income achieved for farmers.

V. Number of farmers equipped with wheat weeds pesticides

It appeared that the number of farmers equipped with pesticides on wheat weeds in Al-Mahaweel Agriculture Division for the three agricultural seasons 2016/2017/2018) amounted to (39) farmers, (309) farmers, and (578) farmers sequentially, with an average of (308) farmers/year, constituting A percentage (35.52%) of the total wheat growers in the agricultural division, and a deficit of (64.48%)

of the total wheat growers in the agricultural division. As shown in Table (4).

Department for Three Seasons (2010/2017-2010/2019)						
Agricultural seasons	Percentage of deficit in number of provided farmers	Percentage of provided farmers	Number of provided farmers	Number of Wheat farmers		
2016/2017	97.30	2.70	39	1443		
2017/2018	46.64	53.36	309	579		
2015/2016	1.20	98.80	578	585		
Total	64.48	35.52	926	2607		

 Table 4. Numbers of Farmers providing by herbicides of wheat in AL-Mahaweel Agriculture

 Department for Three Seasons (2016/2017-2018/2019)

Source: Al-Mahaweel Agriculture Division / Plant Protection Unit

From Table 4. It is noted that:

The number of farmers who have been equipped with wheat bush pesticides is very few, and they represent almost a little more than a third of the wheat farmers in the agricultural division. That is, there is a significant inability to supply all wheat farmers with wheat bush pesticides. This means that most of the wheat farmers depend on the available wheat bush pesticides in the local markets, which are usually of foreign origin at high prices, and the necessity of using them through the sprinklers carried behind the agricultural tug is another material factor in addition to the costs of dunum cultivation. one of the wheat. This affects the income generated by farmers and causes a narrow range of wheat bush pesticides processing and a narrowing of the sustainability or continuity of providing them to farmers.

Sixthly. Wheat weeds herbicide processing time

All respondents in Al Mahaweel Agriculture Division mentioned that the process of preparing wheat bush pesticides in the Agricultural Division during the three aforementioned agricultural seasons was at an appropriate time, that is, before the weeds appeared in their wheat fields for a sufficient period, and this encourages farmers to use wheat bush pesticides at the time of the control appropriate for her.On the other hand, since the results of the research showed a shortage in the quantity of wheat bush pesticides supplied to farmers, ranging from a quarter to half of the required quantity, and then those farmers who did not have access to those pesticides resorted to the agricultural offices scattered in the local markets in order to purchase and secure their needs from them, Therefore, the time to prepare the pesticides has become the responsibility of those farmers themselves, and this depends on the availability of capabilities and agricultural requirements and the extent of the farmers' knowledge of the time of combating wheat weeds. As it appeared that all the 60 farmers surveyed know the time of combating the wheat bush, which is when the emergence of (3 - 5)leaves of weeds plants growing in wheat fields is complete) 27, 28.

1. The limited or (weakness) role of the Public Authority for Plant Protection in providing wheat farmers in Al Mahaweel with crop weeds pesticides, and this weakness is not commensurate with what it should be, and does not help to accelerate and expand the scope of the processing of chemical pesticides and does not achieve continuity and sustainability of that,

Especially since the poor processing of these technologies is negatively reflected in the low productivity of the wheat crop.

2. The weakness of the processing of wheat crop weeds pesticide technologies is a clear indication of the weakness of the government's processing plan due to the lack of an effective plan for the processing of these technologies.

3. The absence of national production companies that undertake the production of local chemical pesticides to combat the wheat bush, which can reduce import or dependence on foreign pesticides and support their prices for farmers.

Recommendations

1. Develop the capabilities of the Public Authority for Plant Protection in the process of equipping wheat farmers with adequate herbicides in quantity, quality and timing, in proportion to the importance of the crop and in a manner that helps to accelerate and expand the scope of the processing of those pesticides to achieve continuity and sustainability of that, which is positively reflected in increasing productivity and production of the wheat crop.

2. Develop effective strategic plans in the process of processing and disseminating wheat crop pesticides technologies in a method that encourages farmers to increase the areas planted with wheat, thus ensuring an increase in productivity and crop production.

3. The work of national production companies to produce local chemical pesticides to combat wheat weeds, to reduce foreign imports from them, encourage local products and support their prices for farmers.

References

1. Chalabi, Faeq Tawfiq (2003). Biological response of wheat to weed control with (Diclofop-Methyl) pesticide alternately with 2,4-D and its effect on grain yield. Iraqi Journal of Agricultural Sciences, 34 (1): 89-100.

2. Central Agency for Statistics and Information Technology, Complete Statistical Collection, Wheat and Barley Production Report for the year (2018), Iraq. 3. Hassan, Salem Abdel Rahman and Hamed Elias Khader (2012). Effect of planting dates for three wheat cultivars on yield characteristics and its components in northern Iraq in Nineveh Governorate. Tikrit University Journal of Agricultural Sciences, 12 (1): 96-106.

4. Hayawi, Wewa Al Jawthari and Noureddin Shawqi Ali (2011). Water use efficiency under mineral and bio-organic fertilization of potatoes. Iraqi Journal of Agricultural Sciences, 42: Special Issue (138-149).

5. El-Hayani, Ahmed Abdel-Wahed Ali Marei (2009). Varieties, seeding rates, and bush herbicide spray rate as integrated management factors for bush control in wheat crop. Master Thesis, College of Agriculture, University of Anbar.

6. Safi, Suhad Mazkour Abdel-Saheb (2016). Combating weeds of wheat by using herbicides and its reflection on the yield. Al-Furat Journal of Agricultural Sciences, 8 (1): 134-141.

7. Saleh, Shakir Mahdi (2008). Allelopathic potential of Sinopis arvernsis input in the germination and growth of bread wheat, aestivum L. Triticum and barley, Hordum vulgare. Tikrit University Journal of Agricultural Sciences, 8 (1): 174-185.

8. Saleh, Shakir Mahdi and Nabhan Awad Muhammad (2011). Evaluation of the efficiency of some electoral pesticides in the fight against the bush and their effect on the yield and its components of the wheat crop and its effect on the remaining yield in the subsequent crop, Tikrit University Journal of Agricultural Sciences, 11 (3): 167-183.

9. Shati, Karim Raysan (2008). Effect of irrigation and herbicides amounts on growth and yield of bread wheat and water use efficiency. Iraqi Journal of Agricultural Sciences, 39 (3): 37-54.

10. Al-Tai, Hussain Khudair (2013). An introduction to improving the quality of agricultural technology dissemination in Iraq. Dialogue of Thought Magazine, 25, 26: 191-237.

11. Ebadi, Khaled Wahhab, Tariq Abdel-Sada and Ahmed Abdel-Wahed Ali (2008). Evaluation, efficiency and selectivity of the pesticide pyroxsulanm in controlling the thin and broad bush spread in wheat fields. Karbala University Scientific Journal, 6 (4): 47-55.

12. Ebadi, Khaled Wahhab, Saleh Hassan Samir and Shawkat Abdullah Habib (2009). Effect of the bush herbicide Chevaler on wheat weeds and the effect of its residues on some subsequent crops. Diyala Journal of Agricultural Sciences, 1 (1): 335-351.

13. Abdel Wahed, Abdel Azim and Hussein Abbas Hussein and Ali Hussein Hassan (2007). The reality of agricultural productivity in Iraq and ways to improve it (wheat crop as a model). Al-Qadisiyah Journal of Administrative and Economic Sciences, 9 (4): 166-184.

14. Al-Akedi, Husam Saadi Muhammad and Faeq Tawfiq Chalabi (2010). Jungle competition and its impact on growth characteristics of some wheat cultivars. Iraqi Journal of Agricultural Sciences, 41 (2): 53-67.

15. Allam, Salah El-Din Mahmoud (2011). Educational Measurement and Evaluation in the Teaching Process, 1st Edition, Dar Al Masirah for Publishing, Distribution and Printing, Amman, Jordan, AS (320).

16. Al-Kubaisi, Saad Ibrahim Youssef (2010). Estimation of the tolerance of some wheat cultivars to the accompanying bush. Anbar Journal of Agricultural Sciences, 8 (4): 363-372.

17. Lahmoud, Nabil Rahim (2015). The role of integration between sorghum residues

and chevaler pesticide in controlling wheat weeds. Iraqi Journal of Agricultural Sciences, 46 (2): 186-195.

18. The Arab Organization for Agricultural Development (2014). Arab Agricultural Statistics Yearbook, Volume 34, Khartoum.

19. Al-Naimi, Saadallah Najm Abdullah (2011). Principles of Plant Nutrition, Ministry of Higher Education and Scientific Research, University of Mosul, Iraq.

20. Ministry of Planning (2009). National Development Plan 2010-2014, Part One, Plan Document, Baghdad, Iraq.

21. Ministry of Agriculture (2011). Action plan of the Ministry of Agriculture for the years 2011-2014, Iraq.

22. Al-Wakaa, Adnan Hussein Ali and Hassan Hadi Mustafa Al-Alawi (2011). Effect of adding some chemical pesticides on the growth and yield of three cultivars of wheat and their accompanying weeds in the irrigated areas of Diyala Governorate. Anbar Journal of Agricultural Sciences, 9 (2): 159-160.

23.Ander, W. M., A. S. Culpeper, and T. L. Grey. (2007). Oat and rye Tolerance to mesosulfuron and tribenuron weed tech. 21(4):938 – 940.

24.Chat. S.T..T.F. Peeper, and A.E. Stone.(2006).Italian rye grass (Folium Multiform). Management option in winter wheat in Oklahoma. Tech.21(2) : 151 - 158. 25.Patrick, W.G., p. W. Stallman, and L. Chart.(2009). Dose Response of five board leaf to salflurencil weed. Teach. 23(2): 313 - 316. 26.Steven, Z, K.; A. Data: J. Scott and L.D. Char vat (2010). Tolerance of winter wheat ((Triticum aestivum L.) to Pre - emergence and post – emerge application of saflufenacil. Crop Protection. 29 (2): 148 – 152. Reports and brochures

27. Jadoua, Khudair Abbas (2013). Combating weeds of wheat, guidance leaflet No. 3. The

National Program for the Development of Wheat in Iraq, Ministry of Agriculture, pg 7.

28. Plant Protection Department in cooperation with the Agricultural Extension and Training Department (2017). Combating jungles of wheat, agricultural engineer and farmer's guide, guidance leaflet, pg. 20.

29. Al Mahaweel Agriculture Division, Planning and Follow-up Unit, Records of Agricultural Seasons (2016/2017 - 2018/2019).

30. Al Mahaweel Agriculture Division, Planting Protection Unit, Agricultural Season Records (2016/2017 - 2018/2019).