

Introduction

Due to the comprehensive impact of the conflict on the population's lives in Syria, the levels of food insecurity continue to be driven by the persistence of the economic crisis, prolonged displacement, and climate change consequences affecting agriculture production (crops and Livestock). Many people have lost their homes, farms, and livelihoods, and are therefore in need of emergency assistance¹. Furthermore, FAO's rapid assessment report in the areas affected by the earthquake (6th of Feb 2023) indicated that it caused major disruption to crop and livestock production capacity, threatening immediate and longer-term food security².

Within this framework, iMMAP's Integrated Market Monitoring Initiative (IMMI) conducted a study aimed to provide key information for the implementation of the Food Security and Livelihood (FSL) activities in Northwest Syria (NWS). Moreover, the study is an attempt to give timely insight into different drivers that influence the functioning and viability of a market, and this is relevant for food assistance and agro-based livelihood programming. The study has been implemented in January 2023, targeting 39 sub-districts in NWS. The results of the study would serve as one of the principal primary information for the majority of agricultural input prices for Spring Season 2023 to inform agricultural input support programming. Although those prices reflect the situation in mid-January 2023, before the earthquakes in the region (6 February 2023) thus, some changes may occur due to the disruption caused in the markets.

Study Objectives

This initiative aims to monitor the agricultural markets in Northwest Syria (NWS) on a seasonal basis, to assess the availability, country of origin, sources, exchange rate, and prices of agricultural inputs to inform food assistance and agro-based livelihood program. This report covers spring/summer 2023 agriculture production season. It is expected that the study results will contribute to promoting market data efficiency and usability, data integration, and methodology standardization among the FSS members and NWS hubs.

¹ North-West Syria: Situation Report, OCHA, 25 February 2023, [\[AR/EN\]](#).

² [Türkiye-Syria earthquake: farmers are in need of immediate assistance](#), FAO, 15 February 2023.

Study Methodology and Respondents

The set of agriculture inputs covered in this round (spring/summer season) was identified by the FSL cluster and Agriculture Technical Working Group (ATWG) and Livestock Technical Working Group (LTWG). The study covered 72 agriculture inputs categorized into six different groups: agriculture equipment and fuel; agriculture inputs (fertilizer, pesticides, herbicides); spring/summer vegetables; spring/summer fruits; leafy vegetables; and animal production and inputs.

Prior to the start of data collection, the specifications and naming of the selected agriculture inputs were validated with ATWG members. The data was collected through one-on-one interviews using a structured questionnaire by 11 partners across 39 subdistricts in four governorates. Figure 1 illustrates the distribution of the respondents across governorates; 47% from Idlib; 45% from Aleppo; 5% from Ar-Raqqa; and 3% from Al-Hasakeh.

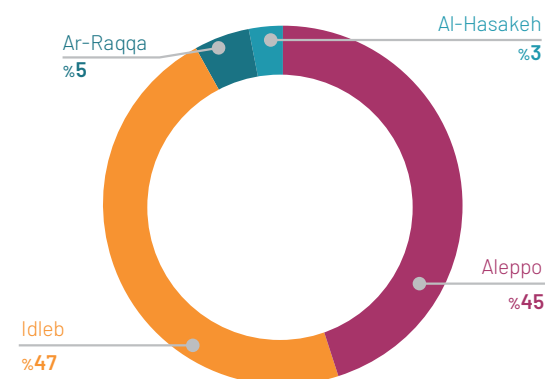


Figure 1. Respondents Percentage per Governorate

The data collection teams reached 2191 respondents in total from various agricultural backgrounds;

41% of respondents are crop farmers and 26% are farmers of both crops and livestock (Figure 2). The data collection activities have been conducted in January 2023, before the earthquake that hit Syria and Turkey on 6 February 2023.

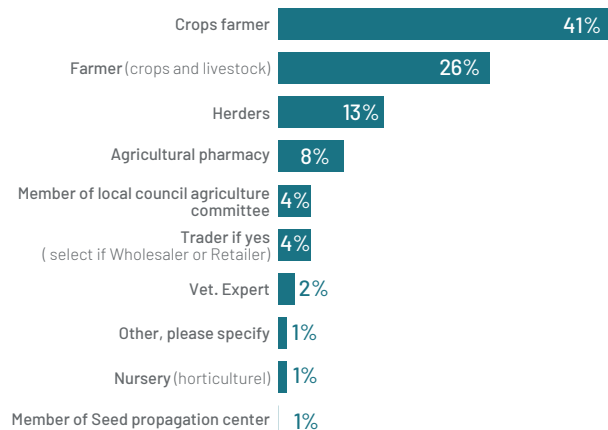


Figure 2. Data Collection Respondents

The percentage of women participating in agriculture-related activities in northwestern Syria is negligible. The data collection team was unable to find more than 1.3% of women.

The price of agricultural inputs price was validated through discussions with the technical and field expertise of participating organizations in the ATWG. Data review and cleaning were performed based on the estimated market price range generated in the validation workshop.

Interactive Dashboard

The purpose of this report is to present a concise overview of the study methodology and highlight the key findings. However, for a more in-depth analysis of the availability, country of origin, and pricing of agricultural inputs at various geographic levels (such as sub-districts, districts, and governorates), we recommend accessing the interactive dashboard provided through this [link](#). The dashboard will provide detailed analysis and visualizations of the data.

Key Findings – Agriculture Inputs General Findings

Exchange Rate and Currency Used for Trading Inputs

The prices of agricultural inputs are a critical factor in determining food prices, as their cost heavily relies on imports and exchange rates. On average, nearly 61% of respondents stated that they primarily use the US Dollar (USD) for trading agricultural inputs, while 23% reported using the Turkish Lira (TRY), and only 17% use the Syrian Pound (SYP), as shown in Figure 3. Comparing this quarter (Q1) in 2023 to the same quarter in the previous year (2022), the use of USD has significantly increased from 49% to 61%, while the use of TRY has decreased from 41% to 23%. The notable decrease in the use of SYP and TRY is attributed to their continuous depreciation and inflation, prompting farmers to safeguard themselves by utilizing USD.

The respondents noted that the use of SYP is extremely limited (5%). At the governorate level, the use of SYP is absent in Idleb for trading agricultural inputs, with very little use (2%) in Aleppo.

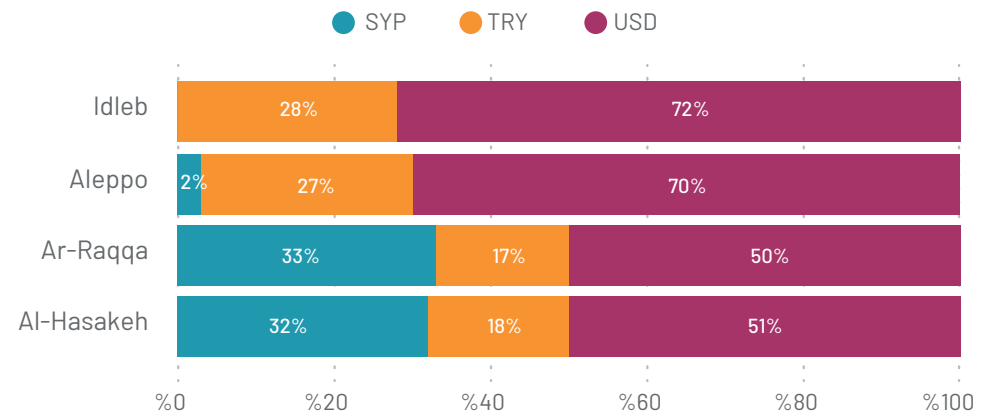


Figure 3. Currency Used in Trading Agriculture Inputs

Availability

During the study period of the spring/summer season in 2023, on average, most respondents (85%) stated that agricultural inputs are consistently available in the markets of Northwest Syria as shown in Figure 4. While the availability percentage for spring/summer vegetables was lower than other input categories, it was still available during most seasons (22%).

Generally, most study respondents considered the agricultural inputs as available in their local community market across Northeast Syria during the study period of the spring/ summer season of 2023. On average, the agricultural inputs availability percentage for all groups covered in this round was reported to be 86% (Al-Hasakeh 78%; Aleppo 91%; Ar-Raqqa 77%; and Idleb 87%).

Respondents that considered the agricultural inputs as only available during the spring/ summer season 2023 were reported to be 11% on average, the highest inputs only available during the season being 17% for Ar-Raqqa Governorate.

On average, only 2% of all the agricultural inputs were considered not available at any time of the year. Most unavailable inputs were in Al-Hasakeh and Ar-Raqqa governorates. The top reported reasons why those inputs were not available were the price increase, the seasonality of inputs, and the high demand for the agricultural inputs.

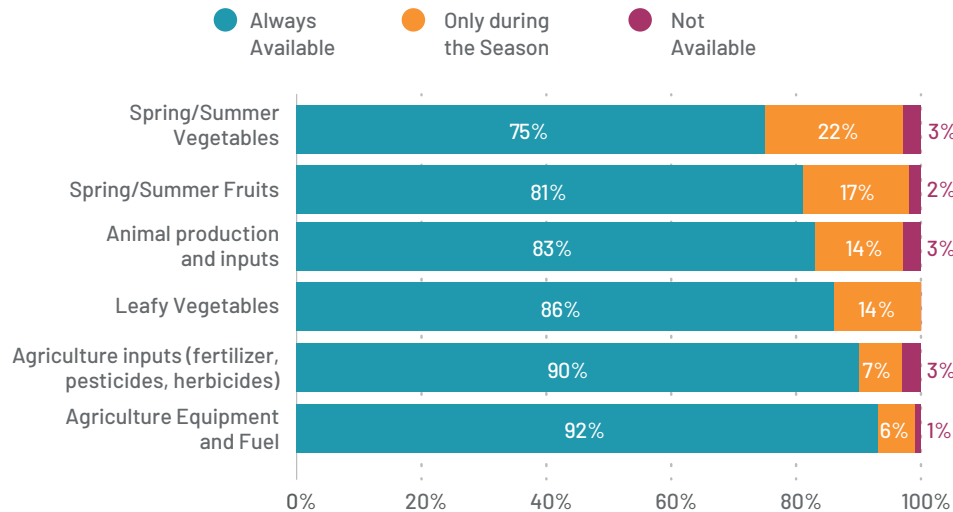


Figure 4. Reported Availability of Agriculture Inputs

Country of Origin

Spring and summer agriculture inputs in NWS markets were largely sourced from inside Syria as 46% of the total inputs are locally originated, while most of the remaining agriculture inputs are being imported from Turkey (30%), China (11%), and 13% from other countries such as USA, Netherland, and France. Among different input categories, Spring/Summer Fruits had the highest percentage of imports from outside Syria (93%), followed by Pesticides, fertilizers, and Herbicides (78%). Most inputs for Spring/Summer Fruits, Pesticides, Fertilizers, Herbicides, and Agriculture Equipment and Fuel were sourced from Turkey, followed by China. However, the categories of Animal Production and Inputs (81%) and Leafy Vegetables (78%) were the least imported as per Figure 5.

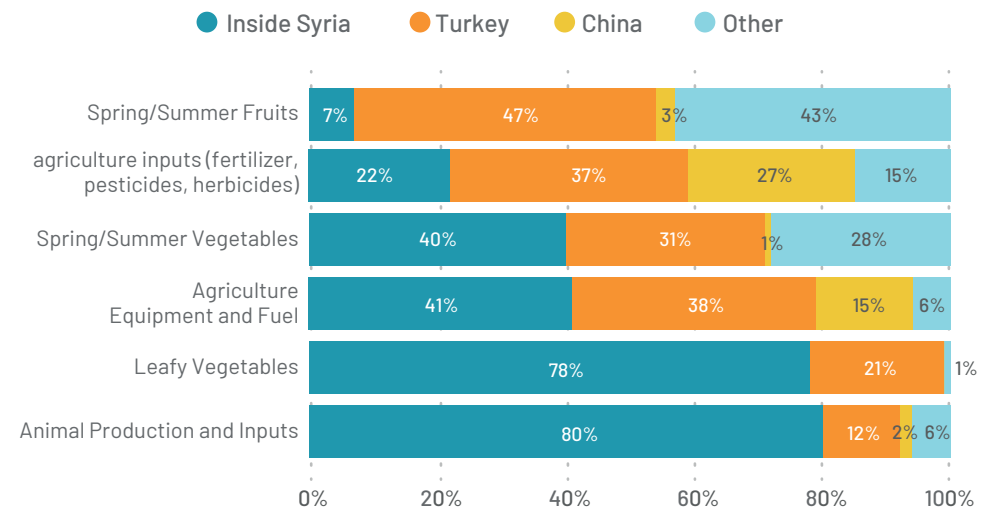


Figure 5. Country of Origin




Key Findings – Agriculture Input Prices

Livestock and Animal Production Inputs

This category covers live animal prices, and inputs and services related to animal production. Live animal prices ranged depending on the animal production purpose whether for meat or milk, where naturally live cow animals are considered the most expensive and particularly for milking purposes. Cow meat was reported not available in Ehsem subdistrict in Idlib governorate.

The most commonly raised concern was the shortage in green pastureland and increased prices of animal production inputs, namely, livestock feed and fodder. This round of the study did not cover the prices of all livestock feed and fodder inputs which will be covered in the next round (e.g., soya silage, cotton silage and corn fodder) however, farmers reported that the increased prices of livestock feed and fodder was forcing some farmers to sell the animal at lower prices.

A significant increase in livestock and poultry prices, as well as their products such as meat, milk, and eggs was noticed during this round of data collection. This can be attributed to various challenges, including the devaluation of the Syrian pound, global price hikes of fodder, and the additional cost of heating to keep the herd alive during winter. The study found that the price of a young layer hen for egg production surged by 175% since early last year, from 2 USD to 5.5 USD. Similarly, the price of a sheep for milk production is now around 160 USD, and a cow for milk production is 1,800 USD, which represents a 60% and 44% increase from early 2022, respectively. Figure 6 shows that the price of a cow for milk production in Aleppo and Idlib governorates is much higher than in Al-Hasakeh and Ar-Raqqa governorates.

	Al-Hasakeh	Aleppo	Ar-Raqqa	Idleb
 1 Live Cow Head – Milking	\$1,350	\$2,000	\$1,300	\$1,800
 1 Live Sheep Head – Milking	\$165	\$175	\$150	\$150
 1 Live Hen – Eggs (young layers)	\$6.5	\$5.3	\$6	\$5

 1 kg Live Sheep – Meat	\$4	\$3.5	\$4	\$3.5
 1 kg Live Cow – Meat	\$3	\$3	\$3	\$2.8
 1 kg Live Chicken – Meat	\$2	\$1.5	\$2	\$1.5

Figure 6. Median Prices in USD of Live Animals - Q1 2023

Respondents reported that Chicken Feed (for layers) and Alfalfa Hay were not available in Ras Al Ain district (Al-Hasakeh governorate) and Tell Abiad district (Ar-Raqqa governorate) due to the lack of demand, hence not being imported from outside Syria (Figure 7).

	Al-Hasakeh	Aleppo	Ar-Raqqa	Idleb
The fee of renting one Grazing donom	\$82	\$60	\$80	\$50
50 kg chicken feed (for layers)	\$35	\$26	\$35	\$30
The fee of Grazing one livestock head in a month	\$35	\$15	\$35	\$15
The fee of renting one donom of agriculture residuals	\$25	\$20	\$20	\$25
1 kg of alfalfa hay	\$0.7	\$0.5	\$0.7	\$0.5
Cost of Enterotoxaemia vaccination (per sheep)	\$0.18	\$0.2	\$0.2	\$0.25

Figure 7. Median Prices in USD of Animal Production Input - Q1 2023

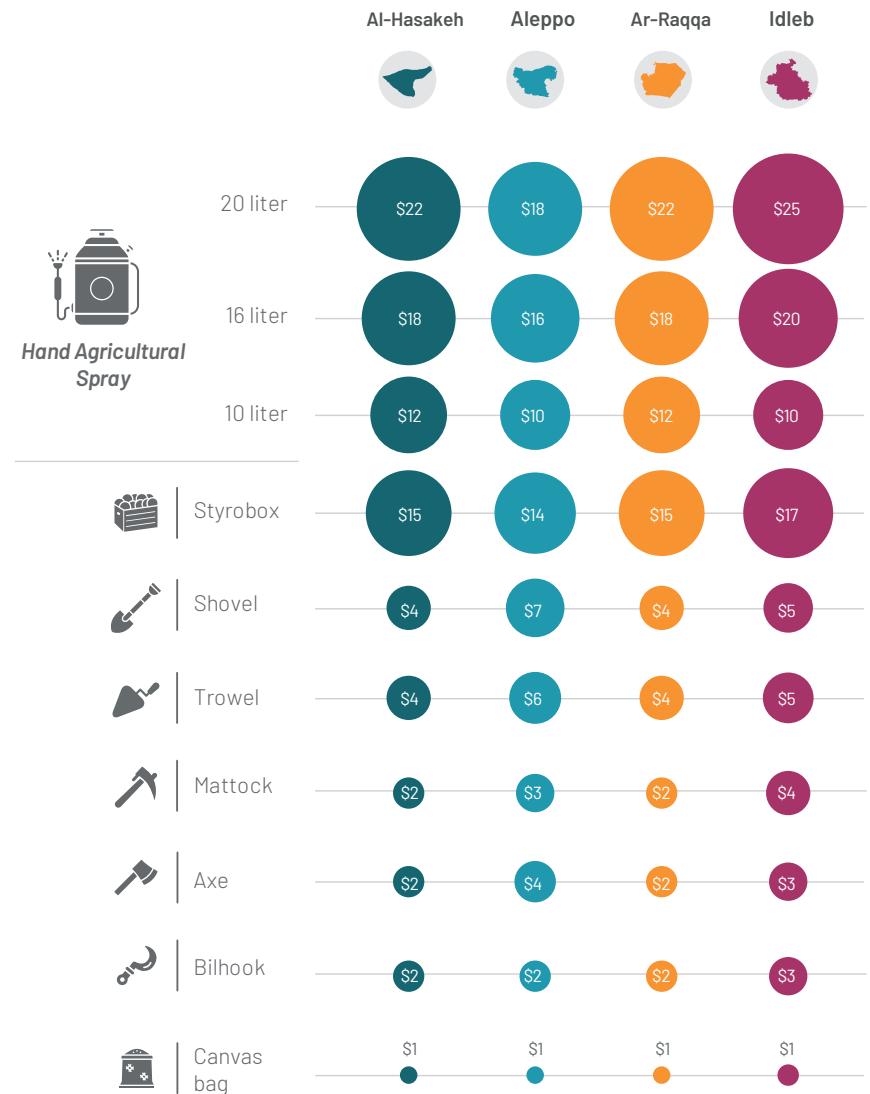
Agriculture Equipment and Fuel

According to the respondents, there has only been an increase of 3% in the price of European Diesel compared to last spring (2022). The current average price of European Diesel, commonly used for generators and heavy machinery, is 1 USD per liter as of the time of data collection. However, the prices of some tools, such as the Trowel and Styro Box, have witnessed a significant increase compared to last year's prices of 2 USD and 5 USD respectively. The Trowel is now priced at 5 USD and the Styro Box is priced at 15 USD.

The overall average cost of harvesting wheat using a combine harvester was USD 10/donum, where Ar-Raqqa and Idleb governorates reported the highest median price, followed by Aleppo and Al-Hasakeh governorates, respectively. Study respondents in Ar-Raqqa, Al-Hasakeh and Idleb governorates reported a very high cost for construction of solar system cost for irrigation for one donum with average \$1875/ donum.

Figure 8 summarizes the reported prices in each governorate for the tools and equipment used in agriculture practices. There is a moderate increase in the price of diesel and the machine's operating cost. The average overall price of European diesel reached USD 1 per liter, while in last spring was \$0.97. Overall, the reported prices ranged between USD 0.9 to 1.7 per liter (at the time of data collection, January 2023). Idleb governorate recorded the highest median diesel price (USD 1.08 per liter), while the median price was the same for the rest of governorates (USD 1 per liter).

The current prices of Local Diesel (Grade 1) and Local Diesel (Grade 2) are an important factor to consider for those who rely on diesel fuel for their agricultural equipment and machinery. As of the time of data collection, the current median price of Local Diesel (Grade 1) is 0.66 USD per liter, which is slightly higher than the price of Local Diesel (Grade 2) at 0.55 USD per liter. It is important to note that the cost of fuel can significantly impact the overall operating costs for farmers and agricultural businesses. Therefore, staying up-to-date with the latest fuel prices and being strategic about fuel usage can help to mitigate costs and increase efficiency in the agricultural sector.



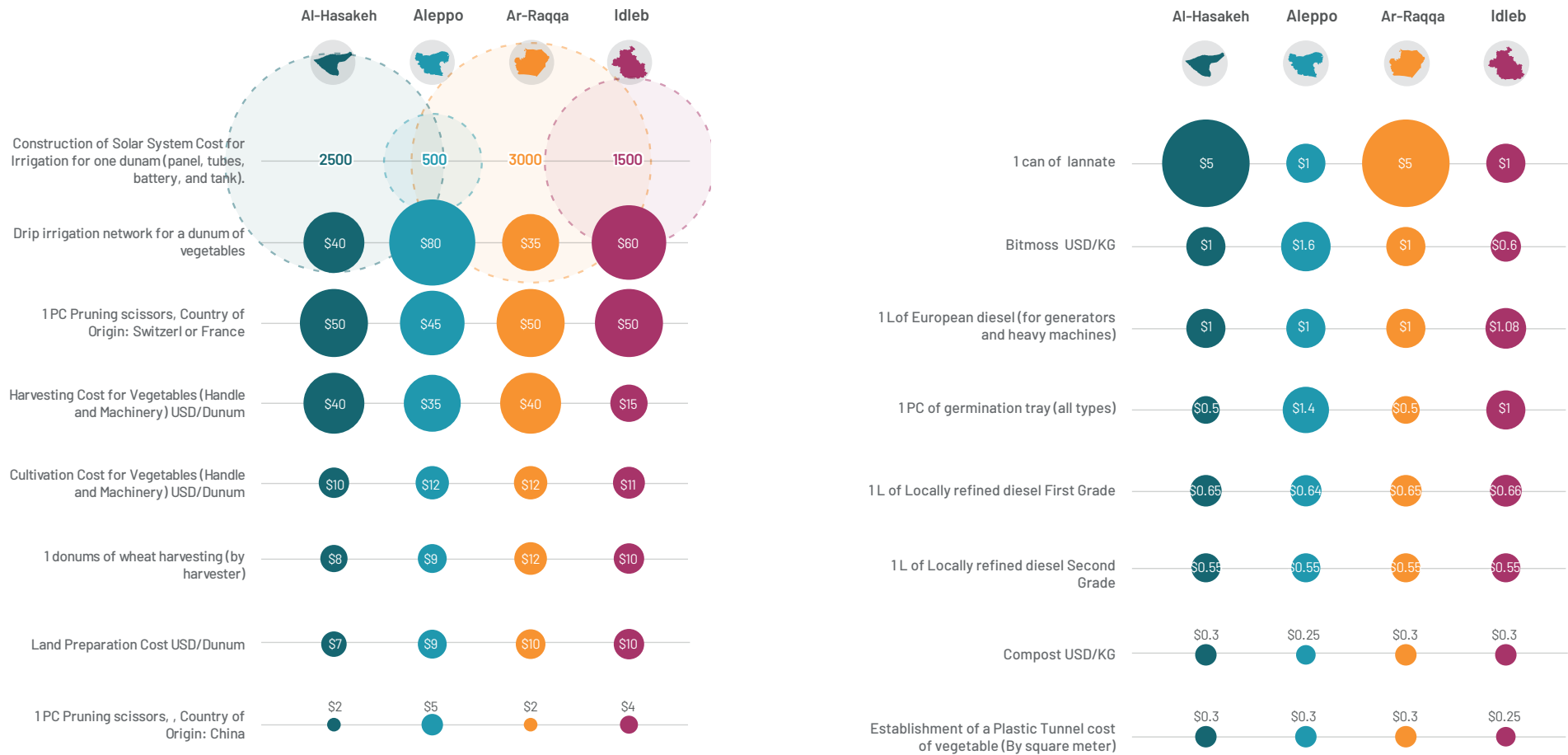


Figure 8. Median Prices in USD of Agriculture Equipment - Q1 2023

Fertilizers, Pesticides, and Herbicides

When comparing the prices of fertilizers, pesticides, and herbicides from this season to the prices from the same season last year, it was found that the prices of Herbicide – Gramixin and Dimethoate have moderately increased by 20% and 11%, respectively. On the other hand, the prices of other products have remained unchanged or decreased. Specifically, the prices of Fungicide – Copper sulphate decreased by 38%, Zinnet by 25%, and Fungicide – Copper oxychloride by 17% compared to early last year (2022). Figure 9 provides an overview of the prices of fertilizers, pesticides, and herbicide products in each governorate.

Sixteen chemical products were assessed under the Fertilizers, Pesticides and Herbicides group during the first quarter of 2023 across the local markets in NWS. The median price of 1 Ton of soluble fertilizer was 2000 USD (\$2200 in both Ar-Raqqa and Al-Hasakeh governorates, \$2000 in Aleppo and \$1950 in Idleb governorate), whereas the median price of 1 Ton of urea fertilizer was 650 USD (700 USD in Aleppo governorate; 640 USD in Idleb governorate; and 550 USD in both Al-Hasakeh and Al-Raqqa governorates).

In addition to the prices of soluble and urea fertilizers, the study also analyzed the prices of other types of fertilizers commonly used in agricultural practices. The results revealed that the median price for 1 ton of Phosphate fertilizer is 450 USD, which is a crucial fertilizer for promoting healthy root growth and fruit production. Additionally, the median price for 1 ton of composed fertilizer NPK is 800 USD, which is a blend of nitrogen, phosphorus, and potassium, essential for plant growth and development.

	Al-Hasakeh	Aleppo	Ar-Raqqa	Idleb
1 ton of Soluble fertilizer (all formulas) with origin	2,200	2,000	2,200	1,950
1 ton of composed fertilizer NPK (all formulas 20:20:20, 15:15:15, 10:10:10) with the origin of the country	725	850	700	820
1 ton of Urea fertilizer (Azot %46) with the origin of the country	550	700	550	640
1 ton of Phosphate fertilizer (Mono, Di, Triple, and DAP) with the origin of the country	600	400	500	360
1 donum of Watering cost ?	80	55	80	15

1 ton of Organic fertilizer (Chicken)	55	59	55	60
1 ton of Organic fertilizer (Sheep, Cow, and Checkin).	25	25	25	25
1 l of dimethoate	10	8.75	10	10
1 kg of fungicide – Copper oxychloride	8.75	10.8	8	10
1 l of decis insecticide (deltamethrin)	8.5	9.75	8	10
1 Liter insecticide Alpha cypermethrin	7	9.5	7.5	10
1 kg of fungicide Copper sulphate	9	8	8	8
1 Liter herbicide Gramixin	6	6.5	6	6
1 can of Iannate	2.5	3	2.5	2
1 envelop of zinnet	1.5	1.5	1.5	1.5

Figure 9. Median Prices in USD of Fertilizers, Pesticides, and Herbicides - Q1 2023

The collected data recorded that one cubic meter of organic manure from poultry was more expensive in comparison to the organic manure from sheep and cow, hence showing the use of poultry organic manure in Aleppo and Idleb governorates indicated by the reported high prices. The median price of 1 cubic meter of organic manure from poultry was almost 60 USD in Aleppo and Idleb governorates and 55 USD in Al-Hasakeh and Ar-Raqqa governorates, whereas the median price of 1 cubic meter of organic manure from sheep and cows was 25 USD in all governorates. Study respondents raised concerns regarding the continuous increase and instability of the prices of agriculture inputs, and of fertilizers, pesticides, and herbicides.

Respondents reported that the average price (median) of watering is \$22.5 per dunum with highest price in Al-Hasakeh governorate (\$80) and lowest price in Idleb governorate (\$15). However, they consider watering to be of less priority during the spring season since most crop cultivations are rain-fed.

Spring/Summer Vegetables

There are a wide range of vegetables that are planted during spring season (Figure 10). In NWS, for certain crops there are two types of seeds available, the local produced open pollinated seeds and the hybrid seeds. The hybrid seeds usually originate from outside Syria or the region, therefore, they tend to be higher in price compared to the local produced seeds. Elite Potato bulbs (Banella) was reported in the last two years to be totally not available from most markets in NWS while in this quarter the respondents reported readily available; approximately 48% of respondents reported that banella bulbs are always available, while some respondents (17%) indicated that they are only available during the spring season.

At district level, imported tomato seeds had the highest recorded price of 30 USD/g in Al Bab and Ariha districts. At sub-district level, the cucurbit seeds had the lowest recorded price of \$0.26/100g in Ghandorah sub-districts.





	Al-Hasakeh	Aleppo	Ar-Raqqa	Idleb
				
100 g of cucumber seeds	\$15	\$25	\$15	\$32
1 g of tomato hybrid seeds	\$4	\$4	\$4	\$25
100 g of zucchini seeds	\$1	\$25	\$1	\$25
1 gr of hybrid bell pepper seeds	\$2	\$2.5	\$2	\$18
1 gr of hybrid eggplant seeds	\$3	\$3.3	\$3	\$15
1 kg of beans	\$5	\$3.5	\$4	\$5
1 kg of elite potato seeds (banella)	\$2	\$2	\$2	\$2.5
100 gr of bell pepper seeds	\$3	\$2	\$4	\$2.1
100 gr of eggplant seeds	\$2	\$3	\$2	\$2
100 gr of cucurbit seeds	\$1	\$2	\$1	\$1.5
100 g of Okra seeds	\$1	\$0.6	\$1	\$0.9
100 g of annual radish seeds	\$0.6	\$0.7	\$0.6	\$0.8

Figure 10. Median Prices in USD of Spring/Summer Vegetable Seeds - Q1 2023

Leafy Vegetable

Prices of Leafy Vegetable Seeds are generally consistent across the four governorates in NWS. According to respondents, the seed prices of Cress (Rashade) and Arugula have increased, while the seed prices of Parsley and Jute Mallow (Mulukheie) have decreased compared to last year's prices. The median price of parsley seeds was \$0.35/100g while the highest recorded price was \$1/100g in Daret Azza and Ghandorah sub-districts in Aleppo governorate. Figure 11 summarizes the prices of leafy vegetable seeds across governorates.

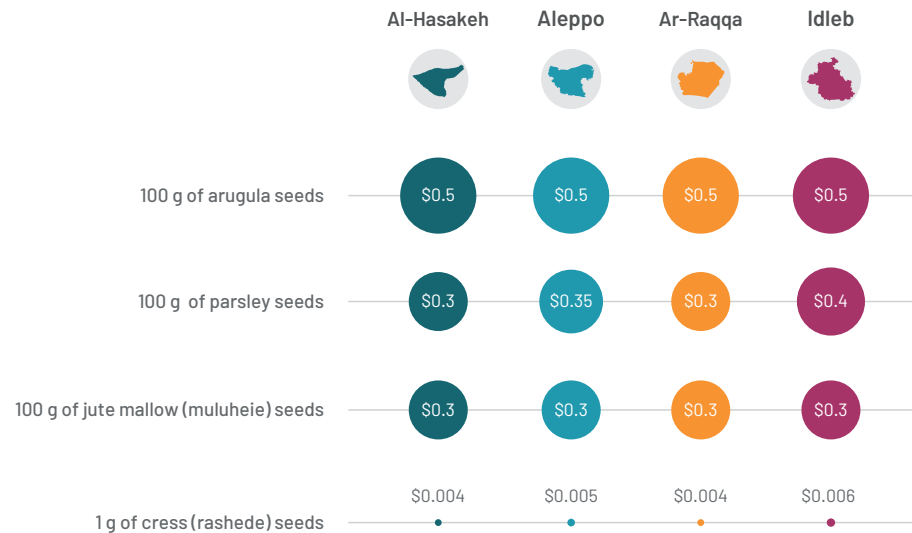


Figure 11. Median Prices in USD of Spring/Summer Leafy Vegetable Seeds across governorates - Q1 2023

Spring/Summer Fruits

As per the study findings, the cost of Watermelon and Melon seeds remains largely unchanged since the previous spring, with a minor reduction of 5%. Moreover, the research indicates that the typical price of Strawberry seeds is around 20 USD for every 100g; however, it appears that these seeds are not available in the Ar-Raqqa governorate, as depicted in Figure 12. Melon seeds had the lowest recorded price of 30.5 USD/100g in Jarablus sub-districts; watermelon seeds had the lowest recorded price of 25 USD/100g in Areb sub-districts.

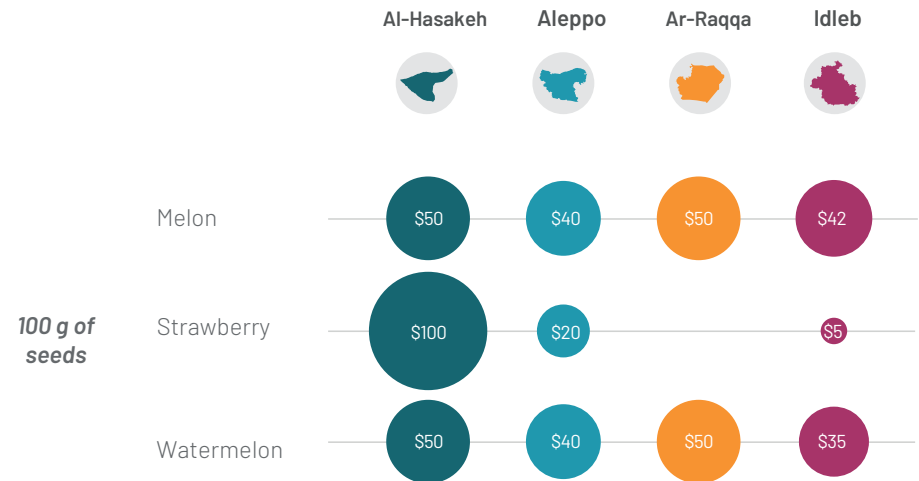


Figure 12. Median Prices in USD of Spring/Summer Fruit Seeds - Q1 2023

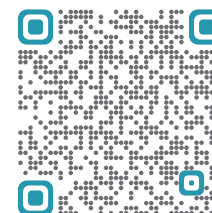
Recommendations

Agriculture is the primary source of income and employment in Northwest Syria; the region is characterized by fertile land and a large variety of crops cultivated such as wheat, barley, olives, vegetables, and fruits. Small-scale farmers dominate the agricultural sector, with most farms being less than five hectares in size. Yet, local farmers are constantly facing severe challenges due to political and security instabilities, climate change, and most recently a devastating earthquake making it more difficult to maintain their activities and productivity. Agriculture inputs in northwest Syria are mainly imported from government-controlled areas or Turkey and are often bought at high prices due to disruptions in the supply chains and high inflation rates of the local currency and Turkish Lira.

Humanitarian actors can play a critical role in addressing the challenges faced by the agricultural sector in Northwest Syria, the following are some recommendations:

- It is recommended to provide support to farmers by covering the costs of essential inputs such as seeds, fertilizers, irrigation, and harvesting expenses. This will enable them to increase their productivity and yield, thereby contributing to the overall growth of the agricultural sector.
- The provision of service extension by international and local non-governmental organizations should be encouraged to complement their ongoing interventions. This will help to ensure that farmers receive the necessary training and technical assistance required to enhance their skills and knowledge in modern agricultural practices.
- To ensure the sustainability of projects within local communities, it is important to support long-term value chains. This will help to promote economic growth and development by creating market linkages and enhancing the efficiency of the agricultural sector.
- Supporting local production, from inputs to processing and marketing, is vital to the growth of the agricultural sector. This can be achieved by providing farmers with access to affordable inputs, supporting the establishment of processing facilities, and creating market linkages for local produce.
- The establishment and support of quality control labs to monitor the inputs used in agriculture is essential to ensure the production of high-quality crops. This will help to boost consumer confidence and create a sustainable market for local produce.
- The graduation approach should be supported in NWS to help farmers transition from subsistence to commercial farming. This can be achieved by providing them with the necessary resources, training, and technical assistance required to develop their skills and knowledge in modern agricultural practices.
- Provide emergency assistance to farmers affected by conflict and displacement, including food aid, shelter, and non-food items. This assistance can help farmers to cope with the immediate impact of conflict and displacement and protect their livelihoods.
- Support the rehabilitation of agricultural infrastructure, such as irrigation systems and water sources, damaged by the conflict or most recently the earthquake. This can help increase access to water and improve agricultural productivity.
- Promote climate-resilient agriculture practices, including drought-tolerant crops, conservation agriculture, and water harvesting. This can help farmers to adapt to the impacts of climate change and reduce the vulnerability of their livelihoods.
- Subsidize critical agricultural inputs. This can increase productivity and decrease farmers' costs.
- Provide access to low-interest loans and financial services. This can help farmers manage and mitigate financial risks due to inflation and agricultural inputs prices increase.
- Provide support to livestock breeders to cope with the destocking wave witnessed due to high production costs.
- Provide capacity-building opportunities to women and youth. This will help create livelihood opportunities and enhance local production through the provision of skilled workers.

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THINK!**



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