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DETERMINANTS OF THE STRATEGIES ADOPTED BY COMPANIES EXPORTING DATES IN ALGERIA: STATE OF BISKRA AS A CASE STUDY

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ABSTRACT

The development of the agricultural sector in Algeria is a major challenge at the economic, public and social level. A considerable potential of agricultural products that can be exploited to achieve non-hydrocarbon exports. The date sector has an enormous natural potential which appears through a large area of plantations encompassing millions of palm trees which produce a multitude of varieties of dates. In terms of export earnings, dates are the leading agricultural product exported by the country. In this regard, the public authorities have given special attention to this sector, regarding to its fragility and its importance as an alternative source of currency. However, the export of dates in Algeria is experiencing many difficulties related to climatic, technical and social conditions of production and also to the institutional and administrative environment of the exporting company. The purpose of this work is to identify the determinants of export strategies and the constraints that hinder the export of dates through an exhaustive survey in the wilaya of Biskra. Fieldwork was conducted with 32 companies. The exploitation of the results of the survey allowed us to identify the main constraints. The most important is institutional, highlighting a lack of financial and organizational support for exporting companies.

KEY WORDS

Algeria, sector, production, export strategy, obstacles.

In Algeria, date palm cultivation takes a leading place in Saharan agriculture (employment, sedentarization of populations, products) (Benzouche, 2008).

In terms of export earnings, dates are the leading agricultural product exported by the country. The value of date sector exports is estimated at \$52.34 million for 2017 and \$22.61 million in 2010 (CNIS, 2018). According to FAO statistics (2019), world date production increased from 4.6 to 8.4 million tonnes between 1993-2017. The world supply of dates is provided by Asia, which provides about 63.9% of world production. In Africa, the three producing and exporting countries of date are, in order of importance for export, Egypt, Tunisia and Algeria. This increase in production in North Africa and Algeria is mainly due to the increase in palm grove areas. Despite this increase in production, the Algerian export offer remains very marginal with around 46,830 tons against a production of 1,100,000 tons in 2017.

Several studies have shown that the date sector in Algeria is experiencing difficulties and is unable to achieve the objectives assigned by the public authorities. For example, Benzouche (2013) tried to evaluate the technical and social conditions of the date packaging in Algeria. The analysis illustrated the malfunctioning of this link. Indeed, the date packaging units, which are already insufficient, have very weak structures and volumes of activity and generally deal only with the sales aspect and marketing of dates without really moving on to the processing stage and the packaging of dates remains limited to certain variety.

Sahli (2013) tried to identify the constraints and the possibilities to establish an official quality label for the "Deglet Nour" date from Timacine (south-eastern Algeria). According to the author, the labeling process lacks involvement of all stakeholders (producers, processors



and distributors). Cheriet (2017) explains in his work that the multiple institutional and organizational constraints make it difficult to involve actors and hinder the visibility of the rules for coordinating the sectors.

Regarding organic farming, Benziouche (2017) has shown that the application of organic farming techniques to date palm cultivation in the Ziban region, as for other agricultural products in Algeria, remains currently under-exploited, neither organized nor framed and for which the information remains very fragmented. This is explained by the combination of several barriers, of a technical, socio-economic and institutional nature, which hinder the development of this practice. Unlike Tunisia which has made great progress in AB and is currently a leading country in the production and export of organic dates.

Bara (2011) confirms that Algerian exporters will no longer be able to operate in such an uncertain financial climate because the currency market is now increasingly fluctuating.

Allani et al. (2016) examined the scope and limits of access to external markets linked to the adoption of food safety standards. They found that some exporters consider these standards as being a "passport" facilitating access to foreign markets, in particular for markets requiring minimum of quality standards, while others show a limited level of acceptability regarding the adoption of SSA standards and express a fear of investing more in private standards type, as in the case of exporters supplying markets with medium security requirements food sanitation.

Ayari et al. (2012) analyzed the attitudes of operators with regard to export risks, particularly credit risk, and their way of managing the situation. They took the example of companies exporting dates in Tunisia. The analysis carried out revealed that the export activity is largely based on traditional markets, with little effort to find new niches. Through a hierarchical classification analysis, three classes of operator profiles were identified, revealing a different perception between operators as well as a use of payment instruments that do not present guarantees to exporters and a low adherence to the system of export credit insurance.

Therefore, the promotion of the export of dates necessarily involves the promotion of competitive companies capable of meeting the challenges imposed by international competition. Competitiveness depends on factors both internal and external to the company adapted to an environment facilitating and encouraging any initiative to go beyond national borders.

From the situation described above, several questions arise:

- What is the situation of date exports in Algeria (structure, evolution and destination)?
- What are the determinants of export strategies at the firm level? What are the constraints that hinder or limit exporting?

Covering an area of more than 169.786 ha, the palm grove is concentrated in the oasis zone of the South-East, mainly in Biskra, El Oued and Ouargla, South-West (Bechar, Adrar), Center-extreme-South (Ghardaia, Tamanrassat, Illizi) and other scattered areas. The main dates producing wilayas (Biskra, El Oued, Adrar, Ouargla, Ghardaia) have an area of 144.189 ha of date palms representing 84.92% of the total Algerian date palm area and 19.063.249 date palms in 2019 (MARD, 2022).

Algeria produces three main varieties of dates which are Deglet Nour, soft dates (Ghers) and dry dates (Degla Beida).

The production all date varieties increased by more than 171.5% between 2002 and 2019, going from 418.427 tonnes in 2002 to 1.136.024,9 tonnes in 2019 (Ministry of Agriculture and Rural Development (MARD), 2022).

The predominance of the production of Deglet Nour compared to the other two categories. It represents on average 51.09% of the total production of dates, all varieties combined. This high rate is explained by the strong demand for Deglet Nour on the international market. The two other varieties (soft dates and dry dates) represent on average, respectively, 18.42% and 30.49% of the national production.

According to FAO data, local consumption of dates in Algeria represents on average 95.7% of total production during the period 2002-2019, rising from 341,656 tons in 2002 to 1,082,000 tons in 2019. This increase in consumption is due to several factors such as: the



increase of production, the increase of national demand in parallel with the increase of the country's population and the increase during religious holidays, as well as a strong demand during the month of Ramadan (Benzouche 2013).

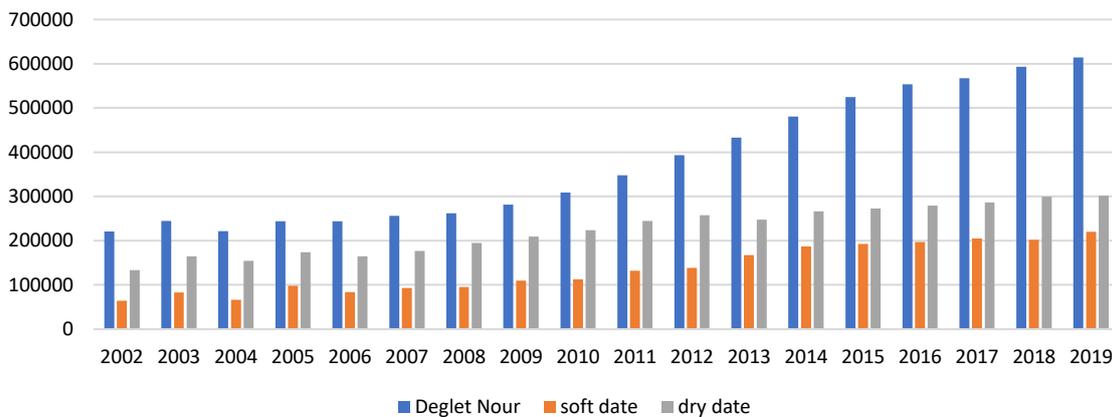


Figure 1 – Evolution of date production by category in Algeria 2000-2019 (Source: Ministry of Agriculture and Rural Development (MARD) 2022)

The date became the first agricultural product exported by the country from 1992, displacing the wine which held the first place for a long time. The volume of date exports increased significantly during the period 2002-2020, rising from a volume of 10.200 T in 2002 to 69.367 T in 2020 following the launch of the program (PNDAR). The graph below illustrates the evolution of date exports during 2000-2018:

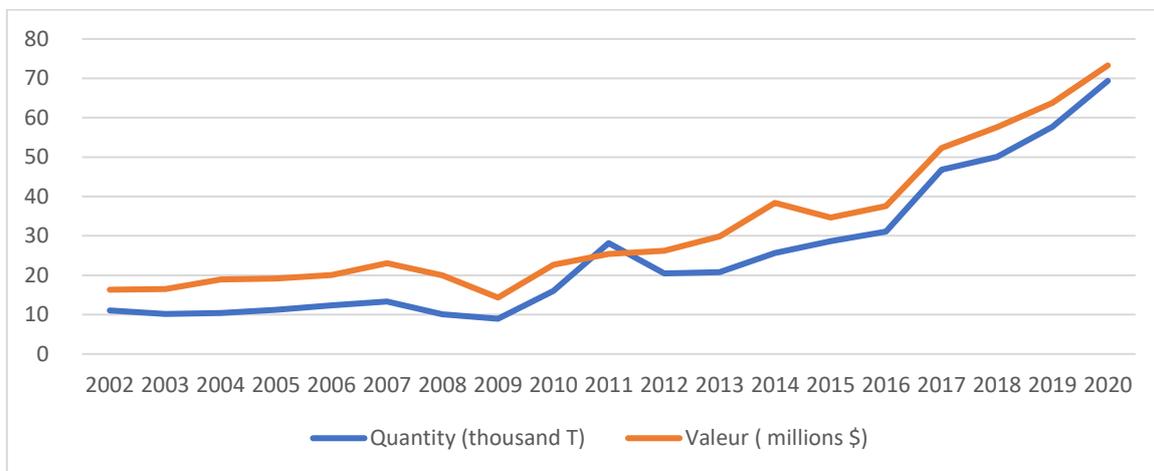


Figure 2 – The evolution of date exports in Algeria in quantity and value, 2002-2020 (Source: made by ourselves using data from the executive management of Customs 2021)

In 2020, on an area of 170.500 ha and a production of 1.151.909 T, Algeria exported only 69.367 tons with a value of 73 million of dollar. Despite the production capacities, exports represent only 6.02% due to strong local consumption. A very low rate compared to the potential of the sector.

Regarding the “Deglet Nour” variety, Algeria is the second largest date producer in the world, after Tunisia. The Degla Beida (dry date) is highly appreciated in Black Africa with 100 T (MDAR, 2021).

During the period 2010-2020, exports reached 395 tonnes (DGD, 2020). The Algerian date is exported to 40 countries including France, Russia, Spain, Germany, Canada, Morocco, Middle East and to countries in sub-Saharan Africa.



METHODS OF RESEARCH

In order to answer our questions, we chose the quantitative method. Our survey focuses on a sample of exporting companies in the wilaya of Biskra. The choice of the region is justified by the fact that Biskra is the first wilaya in term of palm grove area coverage with 124,826 ha or 42% of the total area. The choice of this region is also justified by the number of exporting companies available on the directory established by the CACI (Algerian Chamber of Commerce and Industry), a list of exporting firms provided by the trade department of the wilaya of Biskra as well as the list of the main Algerian exporters provided by the National Council of Statistical Information published on the ALGEX website.

The number of date exporting companies in the wilaya of Biskra is 44. Only 32 responded favorably to our questionnaire where semi-structured interviews were carried out with officials in the top management.

The questionnaire has 52 questions divided into eleven parts: general information and company profile, export strategy and performance, Quality-Standardization-Certification, pricing policy, distribution, export obstacles and finally export support policy of the government.

RESULTS AND DISCUSSION

First, we will identify the profile of the companies surveyed, the determinants of export strategies and the main export constraints, whether internal or external to the company, driven by the institutional environment. We will then analyze the support system provided to these companies as well as their expectations in terms of support on foreign markets.

Identifying exporting companies in order to measure their performance consists of listing their characteristics: the legal nature, the size of the company, the legal status the company and the seniority.

Analysis of the survey results shows that 96.9% of the companies surveyed are private companies against only one public company. According to its manager, the latter has held the monopoly and the control of the market since the 1990s. But from 2017, it stopped the export activity.

The analysis according to the legal nature of the companies shows that more than half of the companies questioned take the form of SARL (limited liability company) (Table 1).

Table 1 – Identification of the companies surveyed

Nature	Public	Private	Joint-venture	Foreign	Total
	1	31	0	0	32
Legal status	EURL	SARL	SPA	Autre	
	6	17	1	8	
Size of the company	LC	SMC	VSC	Other	
	1	25	6	0	

Note: LC (Large company): more than 200 employees; SMC (Small and medium company): between 10 and 200 employees; VSC (Very Small company): less than 10 employees.

Source: Made by the authors (survey, 2019)

The analysis by size reveals that 78.1% of companies surveyed are small and medium. The oldest company has been operating since the 1980s (with more than 20 years of existence) and the most recent has less than 5 years of operation. The segmentation of companies surveyed by age indicates that about 9.4% of them have been established for more than 20 years. The youngest companies, those less than 5 years old represent 25%. According to the results of the survey, we note that 65.7% of the managers of exporting SMEs in our sample are over 45 years old.

The analysis relating to the level of study of the leaders shows that 46.9% of the leaders have a university level. 12.5% have a professional diploma in quality management, date production, and automation.



Table 2 – Identification of the characteristics of leaders

Age	34-44	45-55	45- 55	More than 66	Total
	11	15	3	3	32
Education level	Unschooling	Primary school	Secondary school	Professional diploma	University
	3	4	6	4	15
Export experience	Less than 5 y	5-10	10-15	15-20	Plus de 20 years
	7	9	3	7	6

Source: Made by the authors (Survey, 2019).

As for experience in the field of export, 65.6% of managers began their careers as a manager; these are, in particular, entrepreneurs who therefore have no professional experience. On the other hand, 34.4% of managers have professional experience acquired before becoming a manager. The latter began their careers either as accountants, financiers or in human resources management. Also noting that these exporters come from families who already had experience in this field of production or export of dates.

The positioning of companies with regard to the export objective shows that among the companies questioned, 53.1% confirm that their international development through exports has enabled them to increase their revenue, 62.5% affirm that it allowed them to energize the company. 43.8% of them find that exporting has enabled them to increase their profitability and make better use of their production capacity.

Regarding the start of the export activity, the first export operation carried out was in 1990 and the most recent operation in 2017.

The majority of companies surveyed carried out their first export operation less than 2 years after their creation. This shows that export is the main activity of these companies. As we can also see 27 of the 32 companies surveyed (84.37%) export their products on a regular basis.

As for the origin of the first export operation, 56.7% of the responding exporters affirmed the first export operation was triggered by the solicitation of a foreign customer. None of them mentioned recommending another company/partner/vendor. This may partly explain why these companies do not export under international subcontracting. 6 companies declared that their participation in international trade events was the source of their access to the first export market.

The distribution of companies surveyed according to the number of export operations indicates that 11 companies carry out less than 20 export operations per year, while 18.8% (6 companies) carry out more than 60 operations per year. A single company in our sample carries out more than 250 operations.

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The figure below shows that 81.3% of the companies surveyed export natural dates (untreated) although they are in demand occasionally and in small quantities (from 125 g to 205 g). 75% of them export dates in the form of Deglet Nour Twig and 43.8% in the form of date stalk (Deglet Nour). For pitted dates, 59.4% of the companies surveyed export them either in the form of natural dates or well packaged. For the other categories, there is only one company that has been exporting date syrup since 2016 and another that exports filled dates. 28.1% of companies export date paste.

The range of products exported by the different companies is extremely varied (depending on customer requirements) in trays, boxes, baskets, etc.

According to the results of our survey, 75% of the companies questioned use the tray (for natural or packaged dates).

According to the results of our survey, we find that 86% of the companies questioned use cardboard boxes for large quantities ranging from 1kg to 5kg. 83% use cardboard boxes for small quantities (125g to 250g), 76% use polystyrene trays for small quantities (125g to 250g) and 50% also use wooden trays for small quantities. The choice of packaging is influenced by the destination country (European or African). For example, the 250g option is



avored by consumers of North-Mediterranean origin, which is in line with the size of households and the appreciation of the date as a delicacy.

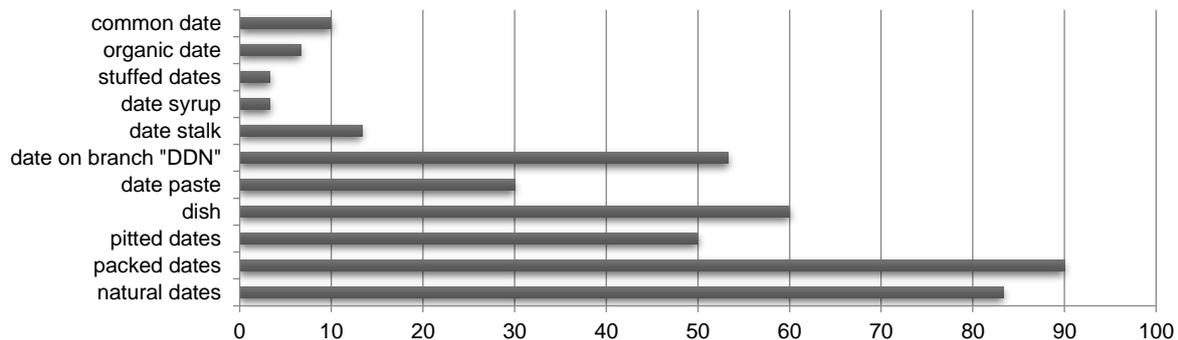


Figure 3 – Results relating to the main exported products by the companies surveyed
(Source: made by the authors. Survey, 2019)

For the packaging of their products, twenty companies use packaging produced locally and imported from abroad, but 7 companies favor imported packaging in order to meet the demands of the customer who requires the traceability of the packaging which remains an obstacle to the export.

Algerian dates are exported well on the international market within several destination countries. 78.1% of the small and medium companies questioned export to France and report France as their first destination. They explain this by the geographical proximity and the presence of an important part of the Algerian community in France. For the other European partners such as Germany and Belgium, they are mentioned by 37.5% and 18.8% of firms respectively.

Other more distant destinations are also popular such as the United States of America with 59.4% of responses, Canada with 40.6% and Russia with 37.5%.

For other countries such as Morocco, Malaysia, Mauritania and Dubai, they represent respectively 37.5%, 21.9%, 18.8 and 15.6% of responses.

The majority of the companies questioned confirmed that their products answer to the requirements of foreign demand, particularly in terms of quality. Nonetheless, international standards are the main barrier to accessing the markets of developed countries, this is the case of the European and American markets.

Among the exporting small and medium companies surveyed, 43.7% of them get à certification for their products. The ISO certifications with its different versions seem to be the most held by companies. Indeed, 21.9% have already obtained the ISO 2200 certification, 9.4% that of ISO 9001, only 9.4% have obtained the IFS (International Food Standard) certification, 15.6% have the BIO certificate.

More than half of exporters have not obtained certification. In general, they do not meet the minimum standards of hygiene required by the control institution as well as inadequacies in relation to space and the absence of water storage tanks. In addition, they are discouraged by the cost of certification and its slow implementation.

While in Tunisia, the majority of exporters carry out certification. According to the study by Allani (2016), 74% of exporters have adopted the ISO 22000 standard. This reflects a general awareness among Tunisian packers-exporters of the need to guarantee safe dates, meeting the expectations of their customers or potential customers.

Product prices differ from one company to another depending on the quality and the destination country (distance). As an example, one of the companies questioned sells 1 kg of tray at 0.4 € to France, at 1.5 € to Asia, at 0.7 € to the Middle East and at 0.8 € in Canada.

If we take the example of another company, it sells a kilogram of the Deglet Nour branchette date between \$4 to \$5 to the United States, while another company sells it between \$3 and \$4, for the same destination.



Table 3 – Average prices of dates for export

The product	Minimum price	Maximum price
Common dates	0.7 €	0.9 €
Dish	0.8 €	2 €
Date stalk (DDN)	2 €	2.5 €
Dates on branch (DDN)	1.7 €	3.2 €
Packed dates	1.5€	3.10€
Pitted dates	1 €	1.5€

Source: Made by the authors (survey, 2019).

Regarding the nature of the aid provided by the public authorities in favor of exporting companies, we figured out that two companies benefit from the services of the FNDAR in the form of an export incentive bonus: 5 DA for dates in bulk and 8 DA for dates packaged and exported in forms one kilogram or less.

Twenty-three companies in our sample make use of financial assistance measures from the Special Fund for the Promotion of Exports. With regard to the valuation premiums, nine of the companies benefit from them. Whereas nineteen companies declare having benefited from the aid for participation in fairs and exhibitions. Among these companies, four of them took part in the international exhibition in Paris, and one company took part in an international exhibition in the United States. Moreover, 46.8% of companies benefit from the payment of part of transport costs. Among the latter, seven companies in our sample declare having already benefited from this aid (50% instead of 80%).

Thirteen companies declared having already benefited from an Rfig bank loan. According to the exporters, they cannot have other credits without having repaid the current credit which is an obstacle for them.

Eighteen companies benefited from the measure relating to the extension of currency repatriation deadlines from 120 days to 180 days. However, only three exporters say they are satisfied with this measure.

Regarding the relaxation of procedures for the recovery of certain VAT (VAT on inputs used in the manufacture of products intended for export), 37.6% of our sample expressed their satisfaction with this measure.

As for the support measures put in place by customs, thirteen companies surveyed benefited from going through the green channel. Seven exporters have confirmed that they have been exempted from the scanner control at the time of their shipment. Six exporters benefited from storage of goods under customs control in premises approved by the customs administration. Twenty exporters confirmed that they do not find any obstacles when exporting abroad as long as they follow the regulations at the customs level.

Regarding the services offered by the National Agency for the Promotion of Foreign Trade (ALGEX), seventeen of the exporters declared that they had already obtained information on foreign markets from this agency.

59.4% of companies stated that they benefit from the Algerian Fairs and Exports Company aid (SAFEX) in order to participate in fairs and exhibitions, particularly those held in Algeria often considered as very important. Nonetheless, many companies are not satisfied with the services of this organization, mainly because of the poor stands' location choice and the absence of specialized fairs.

62.5% of exporters who have benefited from export risk coverage have used the Algerian Export Insurance and Guarantee Company (CAGEX). According to the exporters, the coverage rate of this company is low (3% or 5% of the insured amount) which does not vary according to the risk, the product, and the country. Also, CAGEX does not insure all risks such as product quality risk. For example, some countries use subterfuge on the quality of the product in order to get a product at a low price. The exporter has no choice than to accept this price to avoid rejection of its products.

The Ministry of Agriculture and Rural Development proceeded to the attribution of a geographical Indication (GI) of the date 'Deglet Nour de Tolga' in the decree of November 25, 2008 of the MADR, fixing the methods and procedures for the allocation of geographical indications, as well as the decree of September 22, 2016 on the allocation of the distinctive



sign of recognition of the quality of the agricultural product in geographical indication of the Date Deglet Nour de Tolga for the benefit of the association of date producers in 10 municipalities of the wilaya of Biskra in order to allow this Algerian product to have recognition and protection at local and international level.

The results of our survey reveal that only two companies have obtained the Label (AB). The majority of exporters don't even know it.

Obstacles to exporting: exporters have raised several obstacles related to the production of dates, lack of labor resources, logistics and price variation.

Regarding human resources, 71.9% of exporters surveyed complain of a lack of staff. To satisfy large customer orders, these companies use occasional labor for the packaging activity. 68.8% of these exporters declare that the date sector has experienced plagues in recent years in terms of quality. According to Benziouche (2012), the majority of palm groves is infected by diseases or has been damaged by parasites. In addition, the treatments applied seem to be ineffective, the chemicals not being used at optimal doses and/or used at the wrong time. Thus, insufficient irrigation and drainage is the major constraint preventing good productivity of palm trees among farmers.

In terms of support, nineteen companies consider that export support organizations are not very efficient. They are not satisfied with measures and the system introduced by the public authorities in order to promote this sector given their weak incentive character. In terms of banking supervision, ten exporting companies have found it difficult to access to funding support and consider the absence of export credit as a big obstacle.

Table 4 – “SWOT” analysis of the potential of the date sector in Algeria

Strengths	Weaknesses
Promote the sector Introduction of new varieties A commodity demanded and appreciated by the populations in particular during Ramadan International recognition of the Deglet Nour variety Existence of a potential market for Natural production Availability of dates during the season	Insufficient level of product marketing Insufficient knowledge of appropriate technologies Increase of packaging and processing operations cost Inadequate and unorganized transport of dates Weakness of professional organizations Unorganized sales channels Low involvement of young people and women Lack of financial and labor resources Lack of an appropriate management system Absence of product labels Local price volatility
Opportunities	Threats
Development strategies conducive to improving the productivity, quality and competitiveness of the sector Creation of job opportunities in all segments of date palm farming and related activities Possibility to create promoting units and related activities Opening of the national economy to the external market Encouragement of private investments	Lack of motivation among farmers Existence of international competition (Tunisia) Monovarietal monoculture (deglet nour) Concentration of exports to traditional markets (EU) Consumption and preferences of dates in the fresh state Low and irregular exports Funding issues Absence of encouragement by the government Lack of training

Source: by the authors.

With regard to storage, seven companies confirmed that collectors and storers don't comply with the requirements of storage in a temperature-controlled atmosphere, which results in the deterioration of quality. Also, the long storage period at the level of speculative collectors to increase prices promotes the circulation of partially damaged dates.

Exporters point out also that the poor quality of locally produced packaging forces them to import packaging from abroad at very high costs; which affects the cost price of dates and reduces the ability of others to compete on international markets.

The date transfer circuit and network between producer, packer and exporter remains anarchic. 43.8% of respondents complain about speculators and intermediaries who increase the price and degrade the quality by mixing good quality products with lower quality products. They also insist on the absence of a quality laboratory in the Biskra region. To obtain the certificate of product conformity, exporters have to send samples of their products to other laboratories in the north of the country.



CONCLUSION

Although Algeria is trying to promote non-hydrocarbon exports, these remain marginal both in relation to total exports and the export potential. This situation appears to result from the presence of certain discouraging factors that act negatively on the ability of Algerian companies to offer export opportunities.

In the case of the date sector, exports are very poorly organized. The analysis carried out allowed us to conclude that companies encounter difficulties at two levels: the first one is the environment in which the Algerian company operates and the second one is the company itself. The Algerian business environment, in its side relating to exports, is still not very favorable to the development of export companies, insofar as the exporting companies studied recognize the persistence of constraints, particularly of an institutional and administrative nature, which complicate the export process.

Despite the presence of these constraints such as: the lack of storage and packaging resources, lack of qualified labor, lack of innovation, production capacity; the quality of the product remains the success factor for the export of Algerian dates.

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REFERENCES

1. Alaoui A. (2013), «Pratiques managériales et performance à l'export des PME: la prégnance des facteurs endogènes», *Humanisme et entreprise*, n°311, p-p 21-40, Janvier / Février.
2. Allani H. Romdhani A. & Laajimi A. (2016), "Adoption de référentiels de sécurité sanitaire dans la filière dattes en Tunisie: Portées et limites pour l'accès aux Marchés d'exportation", *New Medit: Mediterranean journal of economics*, vol 15, n°03, p-p 64-72, Septembre.
3. Ayari N& al. (2012), "Attitude et comportement des opérateurs à l'égard des risques à l'export: Cas des exportations des dattes tunisiennes", *New Medit*, vol 11, n°4, p-p 41-48, Décembre.
4. Benziouche S E. (2017), "L'agriculture biologique, un outil de développement de la filière dattes dans la région des Ziban en Algérie", *Cahiers Agricultures*, vol 26, n°03, p 35008.
5. Cheriet F. (2017), "La valorisation des produits de terroir en Algérie: démarches en cours, contraintes institutionnelles et perspectives», Working Paper Moisa 2017-2, présenté au 2nd colloque international sur "la promotion des produits de terroir dans une logique de développement durable", LEREMOS, Université d'Agadir, 18-19/11/ 2016.
6. Cheriet F. & Benziouche S E. (2012), "Structure et contraintes de la filière dattes en Algérie", *New Medit: Mediterranean Journal of Economics*, vol 11, n°04, p 49, Decembre.
7. Sahli Z. (2013), "Contraintes et possibilités ouvertes à la construction d'un signe officiel de qualité: une indication géographique pour la datte Deglet Nour de Timacine (sud-est algérien)", *Indications géographiques, dynamiques socio-économiques et patrimoine bio-culturel en Turquie et dans les pays méditerranéens*, *Options Méditerranéennes: Série A. Séminaires Méditerranéens*, n°104, p-p 157-163.