RED GOLD RUSH
MANAGING QUALITY FOR AFGHAN SAFFRON EXPORTS

AT A GLANCE
Contents

WHY SAFFRON? 2

UNDERSTANDING MARKETS AND BUYERS’ EXPECTATIONS 3

SAFFRON CHARACTERISTICS AND STANDARDS 5

COMPLYING WITH REQUIREMENTS: BEING RIGHT THE FIRST TIME, EVERY TIME 8

DEMONSTRATING COMPLIANCE TO BUILD CUSTOMER CONFIDENCE 10

KEY MARKETS: EUROPE, INDIA AND CHINA 12

WHAT DO YOU NEED TO PRODUCE HIGH-QUALITY SAFFRON? 16
WHY SAFFRON?

As a priority sector of the national export strategy, the success of Afghan saffron will bring significant economic and social advantages to the country. Saffron is the highest-value spice in the world. The long-term profits generated from quality saffron cultivation are great enough to give farmers an incentive to diversify production towards an industry with genuine export potential and social and economic impact.

In addition, the high labour requirements of saffron production offer significant employment opportunities in both peak and off-peak seasons, especially for women. Moreover, the variety of product uses, combined with economic growth in the global South, has resulted in a rising demand.

Over time, saffron production has shifted away from developed countries due to high labour costs and the labour-intensive nature of production. However, developed countries still capture more than half of the global value by importing saffron in bulk, performing value-added activities such as processing, packaging and branding, and then re-exporting.

International spice connoisseurs have already acknowledged that Afghan producers have the potential to produce high quality, globally competitive saffron. Nonetheless, problems persist and consistency must improve for Afghan saffron to develop a brand identity that is synonymous with high quality.

A national reputation that is unique and tantamount to high quality will help facilitate international market access. For this to happen, saffron stakeholders will need to fully understand, comply and demonstrate compliance with the quality requirements of strategic export markets. Having then taken a portion of the market shares, Afghan exporters can envisage premium pricing and shift the balance of power into the hands of producers.

This short document outlines the key areas of consideration in saffron trade. It complements the full publication developed by the International Trade Centre (ITC), ‘Red Gold Rush: Managing quality for Afghan saffron exports’. This work contributes to the country’s national export strategy vision of ‘Peace through Prosperity, Prosperity through Trade’, the stakeholders’ quality management vision ‘Quality brings changes and boosts prosperity’, and the national sector vision, ‘Saffron: spicing up Afghan exports’.
A long history of adulteration

Given its high price, saffron has a history of adulteration that is as long as its own history. The imagination of counterfeiters is without limit. Adulteration takes all forms: wetting, mixing with other stigmas and flowers such as safflower or marigold, adding artificial colours to yellow styles, dipping in sugar solutions, and more. It is even more diversified in the case of powder: additions of turmeric, crushed bricks, chalk, sand, mineral salts, sugar, honey, oils, and more have been used.

Both the authorities and consumers in importing countries reject adulteration, as everyone expects that such an expensive product would be of very high quality and perfectly pure. The saffron sector has developed and is continuing to improve upon control techniques that can detect all types of adulteration.

Complying with legal obligations

Saffron producers, processors and exporters need to comply with all legal requirements established by regulatory authorities in their customers’ countries. These include:

Food safety

Saffron is susceptible to biological, chemical and physical hazards known as contaminants: pesticide residues, heavy metals, microbiological pathogens and naturally occurring toxic substances such as mycotoxins. Their presence is due to either environmental exposure or poor practices during cultivation, processing, storage and transport. To protect consumers, food safety authorities establish maximum limits on contaminants, based on scientific evidence of negative impacts on human health.
Plant health

Any plant-based food product can introduce pests, weeds or diseases that could harm humans, plants or animals in the importing country.

Some examples: Myzus persicae, also known as the green peach aphid, is a small green aphid that transmits more than 100 plant virus diseases. Lepidium draba is a weed that invades all soil types and is potentially harmful to human and animal health, as it can host plant pathogens.

Packaging and labelling

More frequently than realized, food exports arriving in foreign markets are refused entry because packaging and labelling do not comply with requirements of the importing country. Packaging systems are a vital component of export success. Packaging systems include the materials used to package the product, and all of the packaging-related processes along the supply chain.

Traceability

In general, a food business should not receive any food or food ingredient unless it can identify the name of the food/ingredient and the name and contact information of the supplier. Traceability systems, already mandatory for food businesses operating in certain developed countries, are becoming increasingly common worldwide and expectations are trending toward knowing the entire value chain.

Building brands

Building a positive brand reputation takes considerable time and investment. The destruction of a brand reputation can occur much more rapidly. Quality deviations and food safety violations are widely and rapidly disseminated not only within the saffron industry, but also by the media. In this environment, no company can afford to put a defective or unacceptable product on the market.

Need for differentiation: Specific buyer requirements

The competition is increasingly difficult and everyone tries to differentiate, either by offering better products for the same price or by offering additional guarantees or labels. Buyers’ requirements often go beyond the conditions outlined in regulations. Meeting and exceeding the quality specified by a buyer is of paramount importance and should always be the top priority.

Quality requirements can vary substantially depending on the market, the buyer and the intended use of the product. Most buyers have established quality parameters communicated to potential suppliers in a technical sheet or technical specification sheet.
SAFFRON CHARACTERISTICS AND STANDARDS

**Saffron characteristics**

Depending on the market, requirements concerning product characteristics and performance may be outlined within regulations or contained within standards referenced by regulations.

**Product-specific standards**

The most commonly requested standard for saffron and saffron powder worldwide is ISO 3632-1:2011, which establishes three grades (I, II and III) based on a collection of quality characteristics, many of which are shown in the table below. Sensory characteristics are the major parameters to achieve a better grade; however, all other features must also be examined carefully.

The complementary standard, ISO 3632-2:2010, specifies the test methods and procedures used to determine physical and chemical specifications of dried saffron in both its stigma and powder form.

There are also Codex Alimentarius standards that apply to all food products, including saffron. These include general standards on contaminants and toxins, food additives, packaging and labelling. Various Codex codes of practice explain production, processing, manufacturing, transport and storage practices for different foods and help to ensure the safety and suitability of food.
Saffron quality characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory characteristics</td>
<td></td>
</tr>
<tr>
<td>Picrocrocin</td>
<td>Measuring the unique bitter flavour of saffron.</td>
</tr>
<tr>
<td>Safranal</td>
<td>Measuring the unique aroma of saffron.</td>
</tr>
<tr>
<td>Crocin</td>
<td>Measuring the colouring power of saffron.</td>
</tr>
<tr>
<td>Other chemical and physical parameters</td>
<td></td>
</tr>
<tr>
<td>Moisture content</td>
<td>Measuring risk of mould development and spoilage.</td>
</tr>
<tr>
<td>Ash &amp; Acid Insoluble Ash (AIA)</td>
<td>Ash can be defined as the measure of mineral matter. AIA is nearly exclusively sand.</td>
</tr>
<tr>
<td>Water activity (Aw)</td>
<td>Measuring potential microbiological growth.</td>
</tr>
<tr>
<td>Solubility in cold water</td>
<td>Detecting some forms of adulteration.</td>
</tr>
<tr>
<td>Nitrogen content</td>
<td>Measures nitrogen fertilizers potentially used during cultivation.</td>
</tr>
<tr>
<td>Crude fibre</td>
<td>Measures typical fibre content, detecting deviations.</td>
</tr>
<tr>
<td>Product purity</td>
<td></td>
</tr>
<tr>
<td>Foreign or extraneous matter</td>
<td>Sand, soil, gravel, hair, wood, pollen, leaves or other debris, dead insects, glass, hair and metal etc.</td>
</tr>
<tr>
<td>Floral waste</td>
<td>Floral petals, stamens, sepals, pollen, etc.</td>
</tr>
<tr>
<td>Infestation</td>
<td>Living or dead insects or fragments of insects and other impurities of animal origin.</td>
</tr>
<tr>
<td>Adulteration/artificial colouring</td>
<td>Many possibilities, as added safflower or marigold, colouring styles with tartrazine, yellows, or reds.</td>
</tr>
<tr>
<td>Other chemical and physical parameters</td>
<td></td>
</tr>
<tr>
<td>Microbiology</td>
<td>Microbiological contamination such as salmonella, E. coli, enterococcus and other pathogens that harm humans.</td>
</tr>
<tr>
<td>Pesticides</td>
<td>MRLs (maximum residue levels) differ based on national regulations.</td>
</tr>
<tr>
<td>Heavy metals</td>
<td>Traces of heavy metals such as cadmium, lead, arsenic, tin and mercury.</td>
</tr>
<tr>
<td>Mycotoxins (aflatoxin)</td>
<td>Mycotoxins such as aflatoxin or ochratoxins.</td>
</tr>
<tr>
<td>Visual characteristics</td>
<td></td>
</tr>
<tr>
<td>Stigma length</td>
<td>The longer the stigma, the higher the quality.</td>
</tr>
<tr>
<td>Style length</td>
<td>Styles are generally an unwelcome inclusion unless requested by buyers.</td>
</tr>
</tbody>
</table>

Results from laboratory testing of saffron from the most recent harvest in Afghanistan, seen in the table below, illustrates its potential as high quality saffron. Getting the word out on the sector’s potential and gaining the confidence of buyers and consumers remains a priority.

<table>
<thead>
<tr>
<th>No</th>
<th>Description</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>Results</th>
<th>Results</th>
<th>Normal range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Moisture and Volatile Matter</td>
<td>10</td>
<td>12</td>
<td>12</td>
<td>8</td>
<td>Grade A+</td>
<td>Grade A</td>
</tr>
<tr>
<td>2</td>
<td>Picrocrocin</td>
<td>80</td>
<td>70</td>
<td>70</td>
<td>98</td>
<td>Grade A+</td>
<td>Grade A</td>
</tr>
<tr>
<td>3</td>
<td>Safranal</td>
<td>20-50</td>
<td>20-50</td>
<td>20-50</td>
<td>42</td>
<td>Grade A+</td>
<td>Grade A</td>
</tr>
<tr>
<td>4</td>
<td>Crocin</td>
<td>200</td>
<td>180</td>
<td>150</td>
<td>270</td>
<td>Grade A+</td>
<td>Grade A</td>
</tr>
</tbody>
</table>
Management system standards

Many organizations design and implement their processes through a management system that may correspond to established international standards. Some of the most popular management system standards are those developed by the International Organization for Standardization (ISO):

- Food safety management systems (FSMS) - ISO 22000
- Quality management systems (QMS) - ISO 9001
- Environmental management systems (EMS) - ISO 14001.

The benefits of an effective management system to an organization include:

- More efficient use of resources and improved financial performance;
- Improved risk management and protection of people and the environment; and
- Greater capability to deliver consistent and improved services and products, thereby increasing value to customers and all other stakeholders.

Global Food Safety Initiative (GFSI)

In the realm of food safety, buyers can choose from a long list of private management system standards. The most common are those benchmarked to the GFSI. This initiative brings together key actors of the food industry to drive collaboratively continuous improvement in food-safety management systems around the world. The GFSI community works on a volunteer basis and is composed of the world's leading food safety experts from retail, manufacturing and food service companies, as well as international organizations, governments, academia and service providers to the global food industry.

Social and environmental sustainability standards

Sustainability issues may have once been a concern of niche markets in developed countries, but they are at the forefront of the food sector today. While following the sustainability practices outlined by buyers are often sufficient, some buyers may also require certification against a sustainability standard.

Organic

Organic agriculture – respecting natural life cycles and minimizing human impact on the environment – is by far the most popular label, because on top of the ecological concerns, it addresses many worries about unhealthy food. Globally, the value of the market and per capita consumer spending on organic food more than doubled from 2007 to 2016.

This trend is expected to continue: a recent study states that the presence of pesticide residues in conventional food could explain a 25% reduction in overall cancer risk among those consumers who largely consume organic. Growing organic saffron is appealing in terms of the extra value generated despite minimal additional costs, and organic food consumers are less sensitive to price volatility than others.

Fairtrade

Fairtrade focuses on bettering the lives of those who produce Fairtrade-certified products. One of the principles of Fairtrade is a guaranteed minimum price paid to producers, as well as a premium. This helps to ensure a decent living for smallholders and to develop farming communities.

As per Fairtrade Labelling Organizations International (FLO), the global sales of FairTrade products have risen by around 30% annually over the past decade.
COMPLYING WITH REQUIREMENTS: BEING RIGHT THE FIRST TIME, EVERY TIME

Preventive approaches

In the 1980s, it was common practice for companies to calculate ‘non-quality costs’—meaning hidden costs corresponding to losses and corrections due to poor quality. It became obvious that the best (but also the cheapest) way to produce was to ‘do it right the first time, every time’.

As a simple example, it is much easier and cheaper for workers to cover their hair during all processes to avoid contaminating the product, rather than having to take the product back at the end of the process and remove hair with tweezers.

It is even worse if the company fails to discover the defect, but its overseas customer does. This generates claims and reduces customer confidence.

Excellent tools are available to support efforts to attain top quality. Various codes of practice explain production, processing, manufacturing, transport and storage practices, which, when integrated into a Hazard Analysis Critical Control Point system, help to ensure the safety and suitability of food.

Good Agricultural Practices (GAP)

GAP implementation relies on the identification of potential hazards to food through different forms of contamination, and defines appropriate measures for their prevention or control. These practices can help to prevent contamination, or at least ensure a level of contaminants that is acceptable and will meet food safety standards. GAP covers areas such as production site location and environment, agricultural inputs such as soil, water, and corms, pesticide and fertilizer use, as well as worker hygiene and protection.

Good Hygiene Practices/Good Manufacturing Practices (GHP/GMP)

The CAC (Codex Alimentarius Commission) document on the General Principles of Food Hygiene (CAC/RCP 1-1969) lays a foundation for ensuring food hygiene from primary production through consumption, and highlights key hygiene controls at each stage. These controls are recognized at the international level and can be used by governments, industry and consumers alike.

The safety and consistency of saffron quality relies on several factors and processes that occur between the farm and the consumer. GMP cover many of these factors including: processing facility design (interior and exterior), sanitary and worker facilities, equipment design and maintenance, pest control and chemicals, personal hygiene and health, control of operations and corrective actions, training, supervision and recordkeeping.
Hazard Analysis Critical Control Point system (HACCP)

An HACCP system requires that potential hazards are identified and controlled at specific points in the process. This includes biological, chemical or physical hazards.

Each step in food production – including purchasing, receiving, storage, processing, packaging, warehousing and distribution up to the point of consumption – is subject to hazard analysis and necessary controls are introduced. The premise is simple: if each step of the process is carried out correctly, the end product will be safe. HACCP is not a standalone system. GAP, GHP and GMP are all foundational prerequisites for implementation of an HACCP system and should be in place before developing an HACCP plan.

How does this apply to saffron?

Quality saffron begins with a corm

Quality starts as early as in the fields. There is abundant evidence that corm size is a major determining factor for saffron yields and quality. Corm size can impact the number of flower shoots present per corm as well as the quantity and size of resulting progeny corms or ‘bulbits’ that will be used for further saffron production.

 Harvesting

GAP and GHP apply – some examples:

- Workers need to be healthy and free from any bacteria or viruses.
- Hands must be freshly washed and fingernails clean and cut with cleanly cut fingernails.
- Workers should be dressed in clean clothes and covered hair.
- Any tools used during collection, such as tweezers, scissors and baskets, must be perfectly clean and food grade to avoid introducing extraneous matter into the collection of flowers.
- Contact with soil during flower collection should be avoided.
- Hygienic, standardized, shallow (10cm max) food grade plastic baskets ought to be used to collect and transfer saffron flowers.

Transport, stigma separation, drying and cleaning

GHP and GMP apply – some examples:

- Collected flowers should be transported as quickly as possible to a processing centre for stigma separation.
- Vehicles used to transport the saffron flowers to the processing (or storage) facility should be completely enclosed, clean, free of dust and pests, absent of sunlight and temperature controlled.
- A built-in shelving system can be used to place the baskets and hold them securely in place.
- Stigma separation must be a very controlled process performed by healthy individuals free from bacteria or viruses, with freshly washed hands (antibacterial soap or antiseptic gel) and clean, cut fingernails.
- These workers ought to be dressed in clean, white clothes, wearing a white mask and white gloves to minimize the risk of contaminant and colour transfer to the stigma.
- Hair should always be covered. Many buyers have zero tolerance for hair in any saffron that they buy.
- Stigmas should be dried immediately after separation from the flowers. Drying needs to take place in near-laboratory grade facilities in terms of hygiene and controlled environment.
- During cleaning, all foreign matter such as sepals, petals, styles, hair, wood, gravel and insects are removed.
DEMONSTRATING COMPLIANCE TO BUILD CUSTOMER CONFIDENCE

Confidence through system certification
Producers must assess the management systems they have chosen or that their customers are requesting. Some buyers will send auditors and conduct their own inspections. Others, often smaller companies, may rely on third-party verification that results in certification. They may prefer to use one of the GFSI partners and advise to choose an internationally accredited body.

Confidence through product testing
Management via a recognized system does not remove the obligation to test the final product. Buyers often request a certificate of analysis (COA). In addition, they will not accept a certificate from just any laboratory. Laboratories also must meet certain requirements and demonstrate their competence. Third parties control them to certify they are capable of carrying out the controls requested of them. We call them ‘accredited’ labs, and ISO/IEC 17025 is the standard most often used for accreditation purposes worldwide.

A path to accreditation: A crucial step
In the absence of an accredited laboratory in Afghanistan, buyers tend to perform their own testing. Besides the fact that this can be costly, it can also create disputes and lack of confidence.

A laboratory was inaugurated in the western Herat province in January 2018 with the aim of boosting saffron exports. The specialized laboratory will be able to carry out 19 different tests related to saffron quality, including testing for contaminants and sensory, physical and chemical analysis. Currently, 13 tests are available at the facility. The tests are performed in accordance with ISO 3632. The laboratory intends to achieve accreditation according to ISO 17025 within 3–4 years, so that results are fully recognized by the international community.
Having an accredited lab in Afghanistan would be good for all exporters, but equally important for the global reputation of Afghanistan as a source of quality saffron.

**Sampling**

Buyers often request a sample, and even systematically at the beginning of the business relationship. ISO standard 3632-2:2010 provides some indications on the size of the sample needed for each test, but buyers usually say how many grams they request. It is vitally important that the sample be representative of the entire lot. The global rule for spices is to take samples from the number of packages that equal the square root of the total number of packages. Again, considering the high price of saffron, stricter rules can occur, up to one sample per package.

**Evolution of testing**

There are well-established and widely used testing methods to detect adulteration, but researchers around the world are continuously developing new technologies that offer greater scrutiny. They are pushing the boundaries of saffron testing technology for a variety of other purposes, such as determining the geographical origin of saffron, improving methods for verifying levels of key chemical compounds and creating faster, non-destructive testing techniques.
KEY MARKETS: EUROPE, INDIA AND CHINA

Europe

Major re-exporters of saffron in Spain, France and Italy dominate distribution channels in Europe.

Building relationships through consistent high quality

- Among European retailers, high quality is the make-or-break parameter.
- Grade one specifications according to ISO 3632 are a common baseline for many European buyers, and some have even moved beyond this standard and developed their own specifications and quality protocols.
- Strong buyer relationships based on trust and built over time are a critical success factor. Sustainability issues and transparency tend to be valued more by European consumers than elsewhere, signalling opportunities for niche market branding.

Strict regulations

- EU legislation is quite strict in the area of food safety, and European buyers tend to require that suppliers be certified against a food safety management system standard based on HACCP principles before even considering buying saffron.
- According to Regulation (EC) No 882/2004, food imported into the European Union is subject to potential controls at points of entry or even once on the market. These are performed to ensure that all food introduced into the EU market is safe and complies with regulations.
- As the packaging will undoubtedly make physical contact with the saffron, it is important that only materials suitable for contact with food are used and that they do not: endanger human health, cause an unacceptable change in the composition of the saffron, or cause deterioration in the sensory characteristics of the saffron.
- Food products must be traceable as per Regulation (EC) No 178/2002, Article 18. Traceability is of paramount importance in the EU market, as it is an indispensable tool for confronting the challenges of food safety.

Key standards

- Some of the most popular private food-safety management system standards in Europe are FSSC 22000, IFS, SQF and BRC. All of the standards contain general management provisions covering GMP, GHP, GAP and HACCP systems, and are benchmarked to the GFSI.
- Sustainability standards such as those related to the environment or social factors are becoming more common. Some of the most popular are standards such as EU Organic and Fairtrade.

Market preferences and consumer trends in Europe

- Healthy food: European consumers are becoming increasingly averse to the use of chemicals or pesticides on the food they eat. The per capita consumer spending on organic food more than doubled from 2007–16. Above that, consumers reject genetically modified organisms, allergens, the use of irradiation and synthetic flavourings. In that respect, saffron offers many benefits as a natural ingredient for colour or flavouring.
- Sustainability: Sustainable practices adopted along the supply chain can go a long way to differentiating a product from others and opening new market opportunities. Many buyers actually value sustainability to such a degree that it has become a key factor or even prerequisite in purchasing decisions.
- Transparency: European consumers generally like to know the source of the food they eat, how it is produced and where it has been.
- Convenience: As Europeans live increasingly busy lives, they have less time to cook. Some consumers may prefer to cook with spices that are more convenient, whether in terms of form or function.
India

India is the largest market for Afghan saffron and one that will continue to rely heavily on imported saffron despite significant domestic production in the Kashmir region.

Minimize the occurrence of tariff-avoiding illegal smuggling

A relatively significant portion of saffron on the Indian market is illegally supplied from the Islamic Republic of the Iran through various types of smuggling. It is very important for Afghanistan to build and maintain strong legal channels into the market:

- Afghan exporters have been able to capitalize on geographical proximity and growing market size in developing strong relationships with wholesalers and retailers.
- To better cater to the market, production volumes should be increased to allow for consistent and stable bulk shipments. Business relationships should be strengthened.
- Improving packaging methods and branding to improve opportunities in the wholesale and retail sectors should also be a focus.

Re-enforcing regulation

- The Food Safety and Standards Authority of India sets maximum limits on different contaminants to ensure food safety in India.
- Food additives are strictly forbidden and the use of irradiation is regulated under the Atomic Energy (Radiation Processing of Food and Allied Products) Rules.
- Packing and labelling are regulated under the Indian Food Safety and Standards (Packaging and Labelling) Regulation.
- Food imported into India is subject to potential controls at points of entry.

Key standards

- Because most saffron exported to India is used for domestic demand, it is advised to comply with the specifications outlined in national standards such as the AGMARK grading and marking rules for saffron.
- The Bureau of Indian Standards was created in 1947 as the Indian Standards Institution and has operated as the national standards body of India since 1986. IS 5453 – Saffron, Part 1 – Specification prescribes requirements for saffron in both stigma and powder form. The latest revisions of this standard were made to align with the latest version of ISO 3632.
- Certification against an HACCP-based FSMS standard like ISO 22000 is a good way to offer guarantees to Indian buyers that there will be minimal food safety risks associated with a consignment of saffron.

Market preferences and consumer trends in India

- Saffron consumption should continue to grow along with the economic development and urbanization of India.
- High-income households tend to consume saffron, but demand among middle-income households is rising.
- India largely remains a country of healthy and vegetarian cooking, but the middle class increasingly relates to Western fashions such as:
  - Organic food
  - Fair Trade and ethical consumption
  - GMO- and gluten-free
  - Superfoods
- Modern Indian society recognizes Ayurveda as a legitimate medical system. Around two-thirds of the rural population in India use Ayurveda as part of their primary healthcare needs. Saffron is revered in Ayurveda because it is considered a ‘tridoshic’ substance—it helps to balance all three body systems. It is considered to have positive effects on the mind.
China

China's geographical proximity to Afghanistan, along with its large population, make this market an export destination with considerable potential for the Afghan saffron sector. Demand has grown by 49% annually since 2012. Building on historical Silk Road ties between the two countries, saffron from Afghanistan offers new opportunities to increase business and strengthen ties with China.

Evolving food safety regulations

- Food safety regulations in China are set forth in the Food Safety Law of the People’s Republic of China (2015). These laws undergo constant revision, as there is an ongoing effort to better align with international standards. Thus, navigating food safety in China can be a tricky endeavour, especially when considering the language barriers.
- The law states that imported food must comply with the relevant mandatory Chinese national standards or ‘Guobiao’ (GB) related to pesticide MRLs, mycotoxins, heavy metals and microbiological contaminants, food additives, etc.
- The Chinese market is flooded with adulterated or fake saffron. Consequently, buyers will want guarantees that the saffron is pure and authentic, and that it has been harvested and handled in a safe and proper manner.
- Given the uncertainty and evolving nature of the Chinese market, developing strong relationships with buyers is essential.

Key standards

- Certification against a food-safety management system standard based on HACCP principles is an effective way to offer additional guarantees of food safety to Chinese consumers.
- The trend of increased regulation in the Traditional Chinese Medicine industry in China means that food safety controls in the form of GHP, GAP and GMP are of growing importance for suppliers of saffron to Chinese buyers.

Market preferences and consumer trends in China

- **Organic**: The series of food-safety scares in China in the recent past has resulted in a tendency to look for organically certified products.
- **‘Clean’ food**: A McKinsey study found that about half of consumers focus on eating healthy and nutritious foods.
- **E-commerce**: China is the world’s largest e-commerce market. E-payment methods have gained countrywide popularity in the past few years.
- **Brand loyalty**: Fewer Chinese consumers are open to trying new brands, which means that new brand entrants in the saffron market in China (whether for culinary purposes or medicinal) may find it tough to compete with established brands.
New avenues to add value

The medicinal applications of saffron are numerous, and buyers of the spice for this intended use may assign increased importance to the presence of certain chemical compounds in saffron, such as crocin, picrocrocin, crocetin and safranal. The chemical compounds crocin and crocetin, for instance, have anti-depressant properties, while saffron has also been shown to treat menstrual discomfort, high cholesterol and various ailments. There is even ongoing discussion and debate regarding the potential anti-cancerous properties of saffron.

The nutraceutical industry is booming in the West. Ayurvedic medicine is ever-present in India. Traditional Chinese medicine remains a giant, accounting for nearly a third of the total value of the pharmaceutical industry in China. Each of these industries sources saffron for its claimed or proven medicinal properties.

The cosmetics and perfume industry also uses saffron. Cosmetic and fragrant applications of the product go back thousands of years, and interest in saffron for various use continues today. Safranal is the key chemical compound associated with saffron aroma, so these industries may target saffron with high levels of safranal.

The colouring properties of saffron remain sought after in the textile industry, although this usage is decreasing due to the associated high cost and the fact that there are less expensive alternatives.
What do you need to produce high-quality saffron?

Do you want to expand your sales to foreign markets? Do you want to become a renowned supplier? Do you want to improve your efficiency?

Delivering a high-quality product is the way forward and achievable.

Following regulations is the baseline, but you have to use the right tools to do better and achieve perfection in the most efficient way.

All along the value chain, you can get support for good practices, management systems, lab testing, and much more. The Afghan authorities are determined to provide you with an environment conducive to your development.

Make joint efforts, work collectively and engage farmers in the value chain. You will achieve and sustain high quality branded saffron from Afghanistan.

ITC has published an extensive guide, *Red Gold Rush: Managing quality in Afghan saffron exports*, which offers you all of the in-depth information on saffron quality that you may require. It also lists a number of gateways to additional information on saffron quality in trade.

The publication is available for download online:
http://www.intracen.org/publication/red-gold-rush/
The International Trade Centre (ITC) is the joint agency of the World Trade Organization and the United Nations.

This project is funded by the European Union.