



QUALITY TECHNIC SPECIFICATION

Saffron from La Mancha

(ET.01. Rev 1)

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1.- NAME OF PRODUCT.

Saffron from La Mancha.

2.- GEOGRAPHIC AREA.

The area of production, elaboration and packing of the Denominacion de Origen "Saffron from La Mancha" is made up by the townships that you can find in the annexe I of this document.

3.- DESCRIPTION.

3.1. Definition.

It is a spice made up by the stigmas of the flowers joined to its style that belongs to "*Crocus sativus L.*" and dried adequately.

3.2. Characteristics of "Saffron From La Mancha".

3.2.1. Physical characteristics.

The threads will be flexible and resistant with its stigmas coloured in a bright red.

The relationship between the length of the stigma and the style⁽¹⁾ will be superior to unit. (toleration 1%).

The length of the stigma⁽²⁾ won't be below to 22mm. (toleration 1%).

The content in floral remains⁽³⁾ won't exceed to 0'5% in weight; such remains can be the styles free from its stigmas, stamens, pollen, petals, etc.

It will be allowed up to 0'1% of no foreign material. Any different material which doesn't come from the saffron flower is considered as foreign material⁽⁴⁾.

Absence of mould or alive insects.

3.2.2. Organoleptics characteristics.

Appearance: Flexible and resistant.

Colour: Threads with its stigmas coloured in a bright red.

Aroma: Strong, dry and deep due to the toasting process (free from any other scent that is not from the saffron). Lightly aroma to wheat and flowers.

Taste: (In infusion): *First*: bitter, aromatic and dry.

Later: a wheat and toasted flavour that lasts.

3.2.3. Analytical characteristics.

Analytical parameters	Saffron in bulk	Packed saffron
Humidity and volatile materials ⁽⁵⁾ .	7-9%	<11% (m/m)
The whole ashes ⁽⁶⁾ .	-	<8% (m/m)
Insoluble in acid ashes ⁽⁷⁾ .	-	<1.0% (m/m)
Ethereal extract ⁽⁸⁾ .	-	3.5-14.5% (m/m)
Soluble in water extract ⁽⁹⁾ .	-	<65% (m/m)
Colouring powder. ^{1 (10)}		
	>200	>200
Aromatic powder. ^{2 (11)}		
	60>P _a >20	>20
Bitter powder. ^{3 (12)}		
	120>P _m >70	>70
Contents in safranal. ^{4 (13)}		
	>65%	>65%

All the determinations will be done according to official analytical methods.

4.- PRODUCTION OF THE SAFFRON FLOWER.

4.1. Cultivated land.

The previous crops before the planting of the bulbs (last three years) can't be: alfalfa, potatoe, carrot, beet, clover, turnip or similar plants.

The soils should be limy of medium consistence and permeability with neutral pH or lightly alkaline. (max. 8).

4.2. Pre-planting works.

The tools used in the work of the land should be clean to avoid possible infections of the bulbs.

Manured always before the planting, burying it at half depth (12-15cm.)

Mineral feeding optional.

The mineral feeding will be done to make the soil rich in phosphorus and potassium, using for that only lime superphosphate and potash sulphate in the necessary quantities depending on the soil needs.

In the second and third year of the land crop it should be feeded 20-30 days before the bloom.

4.3. Planting.

The bulbs planting will be from the middle of June till the first of September, even with the soil previously in good conditions, bearing in mind the requirements explained in the last paragraph.

¹ Given as direct measure of the absorbency to 440mm., over dry weight.

² Given as direct measure of the absorbency to 330mm., over dry weight.

³ Given as direct measure of the absorbency to 257mm., over dry weight.

⁴ Given in % of all the volatile components.

- Colour White without violet marks, specks, sharp pricks or bumps.
- Sanitary conditions Correct.

4.7.4. Bulbs conservation.

The storing will be in clean, ventilated and dry places.

The bulbs will be layed out in coats up to 15cm. thickness. It is not allowed pilling them up.

5.- ELABORATION OF SAFFRON.

5.1. Unblading or prunig.

It will be accepted only flowers free from mud or earth for its pruning.

Washed saffron won't be accepted.

The pruning or unblading of the flower will happen always the same day and not later than 12 hours after its harvesting.

The stigmas must be cut just below its intersection with the style (where the style is getting white).

The cut will be done so that the stigmas stay joined to the style.

5.2. Toasting.

Once the stigmas are unbladed, they must be placed into sieves in coats of 1'5cm. thick maximum, and toasted over a suitable temperature, in a soft, continual, uniform, and roundabout heat, with the purpose of not giving other foreign tastes or smells to saffron.

The whole time of toasting will be from 20 to 45 min.

The saffron just toasted must be at ambient temperature before packadging.

The toasted saffron is weighed and kept into packages of quality which isolate the contents from humidity and light.

The packages of bulk saffron that comply with all these requirements of this document, must have on the exterior and visible side the label the Denominacion de Origen "Saffron form La Mancha" and another label or any other element that says the township where saffron comes from; the owner name; register number; order number of the recipient of the process of elebation which has carried out; contents in grammes; year of the harvest; number of the lot and analytics and organoleptics results of the lot.

These contents in bulk will be sealed adequately.

5.3. Conservation of saffron in bulk.

The saffron in bulk kept as it is said in the last paragraph, will be stored in clean, fresh, dry, ventilated place and protected from humidity and light places until sold.

6.- PACKING, DISTRIBUTION AND MARKETING OF THE SAFFRON.

6.1. Reception.

The packer should have a way of inspection of saffron in bulk when he receives it.

It is only allowed to pack of the Denominacion de Origen "Saffron from La Mancha", coming from the last harvest.

The packer should guarantee the "Saffron from La Mancha" opposite to other saffrons.

6.2. Packing and manipulation.

The packing will be carried out in a manual or automatic way, in any kind of new packet of quality which guarantees the quality of saffron that it contains.

The manipulation and packing places of the saffron will be clean, dry, ventilated and so that the environment don't damage the quality of the saffron wich is manipulated or/and packed (maximum temperature to 25°C).

The net weight of the "Saffron from La Mancha" that is allowed is up to 100gr.

The packs will have a closing system which guarantees the maintenance of the packed saffron quality.

The packed saffron wich habe all these requirements will be identified with the Denominacion de Origen "Saffron from La Mancha" label with the date of its harvest.

6.3. Storing and conservation.

The storing of the packed saffron will be done in clean, dry and ventilated places with temperatures lower than 25°C.

The places for the saffron storing will be only for saffron and the storing areas of "Saffron from La Mancha" will be clearly differed from others places to other kinds of saffron.

7.- QUALITY INSURANCE.

To make easier to get the licence of use of the Denominacion de Origen "Saffron from La Mancha" and the respective product certification by the Consejo Regulador de Denominacion de Origen "Saffron from La Mancha", the producers and makers should try to introduce the respectives systems of quality measures according to the international norm. ISO 9002.

8.- REFERENCE DOCUMENTATION.

In the preparation of this document, we have taken into account the following document:

Norma de calidad para el comercio exterior del azafrán, Orden Ministerial de 28 de julio de 1999 (BOE de 6-8-99).

UNE 34013-hi. AZAFRÁN.

ISO 3632.1 Saffron (Crocus sativus L.). Part 1: Specification. **ISO 3632.2**, Saffron (Crocus Sativus L.) Part 2 : Test Methods. First edition: 1993-12-15.

Norma UNE-EN-ISO 9004-1 Gestión de la calidad y elementos del sistema de la calidad. Directrices.

Norma UNE-EN-ISO 9002. Sistemas de la calidad. Modelo para el aseguramiento de la calidad en la producción, la instalación y el servicio posventa.

9.- ANNEXES.

9.1. ANNEXE I: List of townships which belong to the Denominación de Origen "Saffron from La Mancha" Azafrán de La Mancha

CODE	TOWNSHIP	CODE	TOWNSHIP	CODE	TOWNSHIP
ALBACETE:					
2001	ABENJIBRE	2032	FUENSANTA	2063	POZOHONDO POZO CAÑADA
2002	ALATOZ	2033	FUENTE-ALAMO	2064	POZO LORENTE
2003	ALBACETE	2034	FUENTEALBILLA	2065	POZUELO
2004	ALBATANA	2035	GINETA (LA)	2066	RECUEJA (LA)
2005	ALBOREA	2036	GOLOSALBO	2067	RIOPAR
2006	ALCADOZO	2037	HELLIN	2068	ROBLEDO
2007	ALCALA DEL JUCAR	2038	HERRERA (LA)	2069	RODA (LA)
2008	ALCARAZ	2039	HIGUERUELA	2070	SALOBRE
2009	ALMANSA	2040	HOYA GONZALO	2071	SAN PEDRO
2010	ALPERA	2041	JORQUERA	2072	SOCOVS
2011	AYNA	2042	LETUR	2073	TARAZONA DE LA MANCHA
2012	BAZALOTE	2043	LEZUZA	2074	TOBARRA
2013	BALSA DE VES	2044	LIETOR	2075	VALDEGANGA
2014	BALLESTERO (EL)	2045	MADRIGUERAS	2076	VIANOS
2015	BARRAX	2046	MAHORA	2077	VILLA DE VES
2016	BIENSERVIDA	2047	MASEGOSO	2078	VILLALGORDO
2017	BORRAGA	2048	MINAYA	2079	VILLAMALEA
2018	BONETE	2049	MOLINICOS	2080	VILLAPALACIOS
2019	BONILLO (EL)	2050	MONTALVOS	2081	VILLARROBLEDO
2020	CARCELEN	2051	MONTEALEGRE DEL CASTILLO	2082	VILLATOYA
2021	CASAS DE JUAN NUÑEZ	2052	MOTILLEJA	2083	VILLAVALIENTE
2022	CASAS DE LAZARO	2053	MUNERA	2084	VILLAVERDE DE GUADALIMAR
2023	CASAS DE VES	2054	NAVAS DE JORQUERA	2085	VIVEROS
2024	CASAS IBAÑEZ	2055	NERPIO	2086	YESTE
2025	CAUDETE	2056	ONTUR		
2026	CENIZATE	2057	OSSA DE MONTIEL		
2027	CORRAL RUBIO	2058	PATERNA DEL MADERA		

2028	COTILLAS	2059	PEÑASCOSA
2029	CHINCHILLA DEL MONTE-ARAGON	2060	PEÑAS DE SAN PEDRO
2030	ELCHE DE LA SIERRA	2061	PETROLA
2031	FEREZ	2062	POVEDILLA

CODE	TOWNSHIP	CODE	TOWNSHIP
CIUDAD REAL:			
13004	ALBACEJO	13056	MIGUELTURRA
13005	ALCAZAR DE SAN JUAN	13057	MONTIEL
13008	ALCUBILLAS	13058	MORAL DE CALATRAVA
13010	ALHAMBRA	13061	PEDRO MUÑOZ
13013	ALMAGRO	13066	POZUELO DE CALATRAVA
13018	ARENAS DE SAN JUAN	13070	PUERTOLAPICE
13019	ARGAMASILLA DE ALBA	13074	SAN CARLOS DEL VALLE
13023	BOLAÑOS DE CALATRAVA	13078	SOCUELLAMOS
13028	CAMPO DE CRIPTANA	13079	SOLANA (LA)
13031	CARRION DE CALATRAVA	13082	TOMELLOSO
13032	CARRIZOSA	13083	TORRALBA DE CALATRAVA
13039	DAIMIEL	13087	VALDEPEÑAS
13043	FUENLLANA	13089	VILLAHERMOSA
13044	FUENTE EL FRESNO	13092	VILLANUEVA DE LA FUENTE
13047	HERENCIA	13093	VILLANUEVA DE LOS INFANTES
13050	LAS LABORES	13096	VILLARRUBIA DE LOS OJOS
13053	MANZANARES	13097	VILLARTA DE SAN JUAN
13054	MEMBRILLA	13902	RUIDERA

CODE	TOWNSHIP	CODE	TOWNSHIP	CODE	TOWNSHIP
CUENCA:					
16001	ABIA DE LA OBISPALIA	16083	FRESNEDA DE ALTAREJO		
16002	ACEBRON (EL)	16084	FRESNEDA DE LA SIERRA	16157	PESQUERA (LA)
16003	ALARCON	16085	FRONTERA (LA)	16158	PICAZO (EL)
16004	ALBADANEJO DEL CUENDE	16086	FUENTE DE PEDRO NAHARRO	16159	PINAREJO
16005	ALBALATE DE LAS NOGUERAS	16087	FUENTELESPINO DE HARO	16160	PINEDA DE LA CIGÜELA
16007	ALBERCA DE ZANCARA (LA)	16089	FUENTES	16161	PIQUERAS DEL CASTILLO
16010	ALCAZAR DEL REY	16091	FUERTECUSA	16163	PORTILLA
16012	ALCONCHEL DE LA ESTRELLA	16092	GABALDON	16165	POYATOS
16015	ALMARCHA (LA)	16096	GRAJA DE INIESTA	16166	POZOAMARGO
16016	ALMENDROS	16098	HERRUMBLAR (EL)	16167	POZORRUBIO DE SANTIAGO
16017	ALMODOVAR DEL PINAR	16099	HINOJOSA (LA)	16171	PROVENCIO (EL)
16018	ALMONACID DEL MARQUESADO	16100	HINOJOSOS (LOS)	16172	PUEBLA DE ALMENARA
16019	ALTAREJOS	16101	HITO (EL)	16174	PUEBLA DEL SALVADOR
16022	ARCOS DE LA SIERRA	16102	HONRUBIA	16175	QUINTANAR DEL REY
16023	CHILLARON DE CUENCA	16103	HONTANAYA	16176	RADA DE HARO
16025	ARRANCACEPAS	16104	HONTECILLAS	16181	ROZALEN DEL MONTE
16026	ATALAYA DE CAÑAVATE	16106	HORCAJO DE SANTIAGO	16185	SALCEDA -TRASIERRA
16027	BARAJAS DE MELO	16107	HUELAMO	16186	SAELICES
16029	BARCHIN DEL HOYO	16108	HUELVES	16190	SAN CLEMENTE
16030	BASCUÑANA DE SAN PEDRO	16110	HUERTA DE LA OBISPALIA	16191	SAN LORENZO DE LA PARRILLA
16031	BEAMUD	16112	HUETE	16195	SANTA MARIA DEL CAMPO RUS
16032	BELINCHON	16113	INIESTA	16196	SANTA MARIA DE LOS LLANOS
16033	BELMONTE	16118	LEDAÑA	16198	SISANTE
16034	BELMONTEJO	16121	MAJADAS (LAS)	16199	SOLERA DE GABALDON
16038	BUCIEGAS	16122	MARIANA	16203	TARANCON
16039	BUENACHE DE ALARCON	16124	MESAS (LAS)	16204	TEBAR
16040	BUENACHE DE LA SIERRA	16125	MINGLANILLA	16209	TORRALBA
16042	CAMPILLO DE ALTOBUEY	16128	MONREAL DEL LLANO	16211	TORREJONCILLO DEL REY
16047	CAÑADAJONCOSA	16129	MONTALBANEJO	16212	TORRUBIA DEL CAMPO
16048	CAÑAMARES	16130	MONTALBO	16213	TORRUBIA DEL CASTILLO
16049	CAÑAVATE (EL)	16131	MONTEAGUDO DE LA SALINA	16215	TRAGACETE
16050	CAÑAVERAS	16132	MOTA DE ALTAREJOS	16216	TRESJUNCOS
16053	CAÑIZARES	16133	MOTA DEL CUERVO	16217	TRIBALDOS
16058	CARRASCOSA DE HARO	16134	MOTILLA DEL PALANCAR	16218	UCLES
16060	CASAS DE BENITEZ	16139	OLIVARES DEL JUCAR	16219	UÑA
16061	CASAS DE FERNANDO ALONSO	16140	OLMEDA DE LA CUESTA	16225	VALDEMORILLO DE LA SIERRA
16063	CASAS DE GUIJARRO	16141	OLMEDA DEL REY	16227	VALDEMORO SIERRA
16064	CASAS DE HARO	16142	OLMEDILLA DE ALARCON	16231	VALHERMOSO DE LA FUENTE
16065	CASAS DE LOS PINOS	16143	OLMEDILLA DE ELID	16236	VALVERDE DEL JUCAR
16066	CASASIMARRO	16145	OSA DE LA VEGA	16237	VALVERDEJO
16068	CASTILLEJO DE INIESTA	16148	PALOMARES DEL CAMPO	16238	VARA DE REY
16070	CASTILLEJO SIERRA	16149	PALOMERA	16239	VEGA DEL CODORNO
16071	CASTILLO ALBARAÑEZ	16150	PARACUELLOS	16240	VELLISCA
16072	CASTILLO DE GARCIMUÑOZ	16151	PAREDES	16243	VILLAESCUSA DE HARO
16073	CERVERA DEL LLANO	16152	PARRA DE LAS VEGAS (LA)	16244	VILLAGARCIA DEL LLANO
16074	CIERVA (LA)	16153	PEDERNOSO (EL)	16245	VILLALBA DE LA SIERRA
16078	CUENCA	16154	PEDROÑERAS (LAS)	16247	VILLALGORDO DEL MARQUESADO
16081	CHUMILLAS	16155	PERAL (EL)	16248	VILLALPARDO

CODE	TOWNSHIP	CODE	TOWNSHIP	CODE	TOWNSHIP
16082	ENGUIDANOS	16156	PERALEJA (LA)	16901	CAMPOS DEL PARAISO
16249	VILLAMAYOR DE SANTIAGO	16266	VILLAREJO-PERIESTEBAN	16902	VALDETORTOLA
16250	VILLANUEVA DE GUADAMAJUD	16269	VILLARES DEL SAZ	16903	VALERAS (LAS)
16251	VILLANUEVA DE LA JARA	16270	VILLARRUBIA	16904	FUENTENAVA DE JABAGA
16253	VILLAR DE CAÑAS	16271	VILLARTA	16905	ARCAS DEL VILLAR
16254	VILLAR DE DOMINGO GARCIA	16272	VILLA DE LA VENTOSA	16906	VALDECOLMENAS (LOS)
16255	VILLAR DE LA ENCINA	16273	VILLAVERDE Y PASACONSOL	16908	POZORRUBIELOS DE LA MANCHA
16263	VILLAR DE OLALLA	16277	ZAFRA DE ZANCARA	16909	SOTORRIBAS
16264	VILLAREJO DE FUENTES	16279	ZAFRA DE TAJO	16910	VILLAR Y VELASCO
16265	VILLAREJO DE LA PEÑUELA	16280	ZARZUELA		

CODE	TOWNSHIP	CODE	TOWNSHIP
TOLEDO:			
45026	CABAÑAS DE YEPES	45141	QUERO
45027	CABEZAMESADA	45142	QUINTANAR DE LA ORDEN
45034	CAMUÑAS	45149	ROMERALES
45050	CIRUELOS	45156	SANTA CRUZ DE ZARZA
45053	CONSUEGRA	45166	TEMBLEQUE
45054	CORRAL DE ALMAGUER	45167	TOBOSO (EL)
45059	DOSBARRIOS	45175	TURLEQUE
45071	GUARDIA (LA)	45177	URDA
45078	HUERTA DE VALDECARABANOS	45185	VILLACAÑAS
45084	LILLO	45186	VILLA DE DON FADRIQUE (LA)
45087	MADRIDEJOS	45187	VILLAFRANCA DE LOS CABALLEROS
45090	MANZANEQUE	45191	VILLAMUELAS
45101	MIGUEL ESTEBAN	45192	VILLANUEVA DE ALCARDETE
45106	MORA	45193	VILLANUEVA DE BOGAS
45115	NOBLEJAS	45195	VILLARRUBIA DE SANTIAGO
45121	OCAÑA	45197	VILLASEQUILLA DE YEPES
45123	ONTIGOLA	45198	VILLATOBAS
45124	ORGAZ	45200	YEBENES (LOS)
45135	PUEBLA DE ALMORADIEL (LA)	45202	YEPES

9.2. ANNEXE II: Test methods.

(1), (2) The longitude of the stigma and the relationship longitude of the stigma/longitude of the style will be the half arithmetic of the measures obtained in 20 threads of the test sample.

- (3) ISO 3632-2: 1993. Apto. 6
- (4) ISO 3632-2: 1993. Apto. 7
- (5) ISO 3632-2: 1993. Apto. 9
- (6) UNE 34.096-81. Part 4. ISO 928: 1997 (Second edition 1997-12-15)
- (7) UNE 34.096-81. Part 6. ISO 930: 1997 (Second edition 1997-12-15)
- (8) CICE Madrid. Met-8.01
- (9) UNE 34.096-81. Part 9. ISO 941
- (10) ISO 3632-2: 1993. Apto. 13
- (11) ISO 3632-2: 1993. Apto. 13
- (12) ISO 3632-2: 1993. Apto. 13
- (13) CICE Madrid. Met-17.00