PRODUCT SPECIFICATION

"Iveagh Rapeseed Oil"

PDO ( ) PGI (X)

This document sets out the elements of the product specification for information purposes.

1 RESPONSIBLE DEPARTMENT IN THE MEMBER STATE

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2 GROUP

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Tel.: 0288 3888 1210

Fax:

Email: iveaghoils@waringestate.com

Composition: Producers/processors (15) Other ( )

3 TYPE OF PRODUCT

Class 1.5 Specification Oils and Fats (butter, margarine, oil etc.)

3.1 Name:

"Iveagh Rapeseed Oil"

3.2 Description:

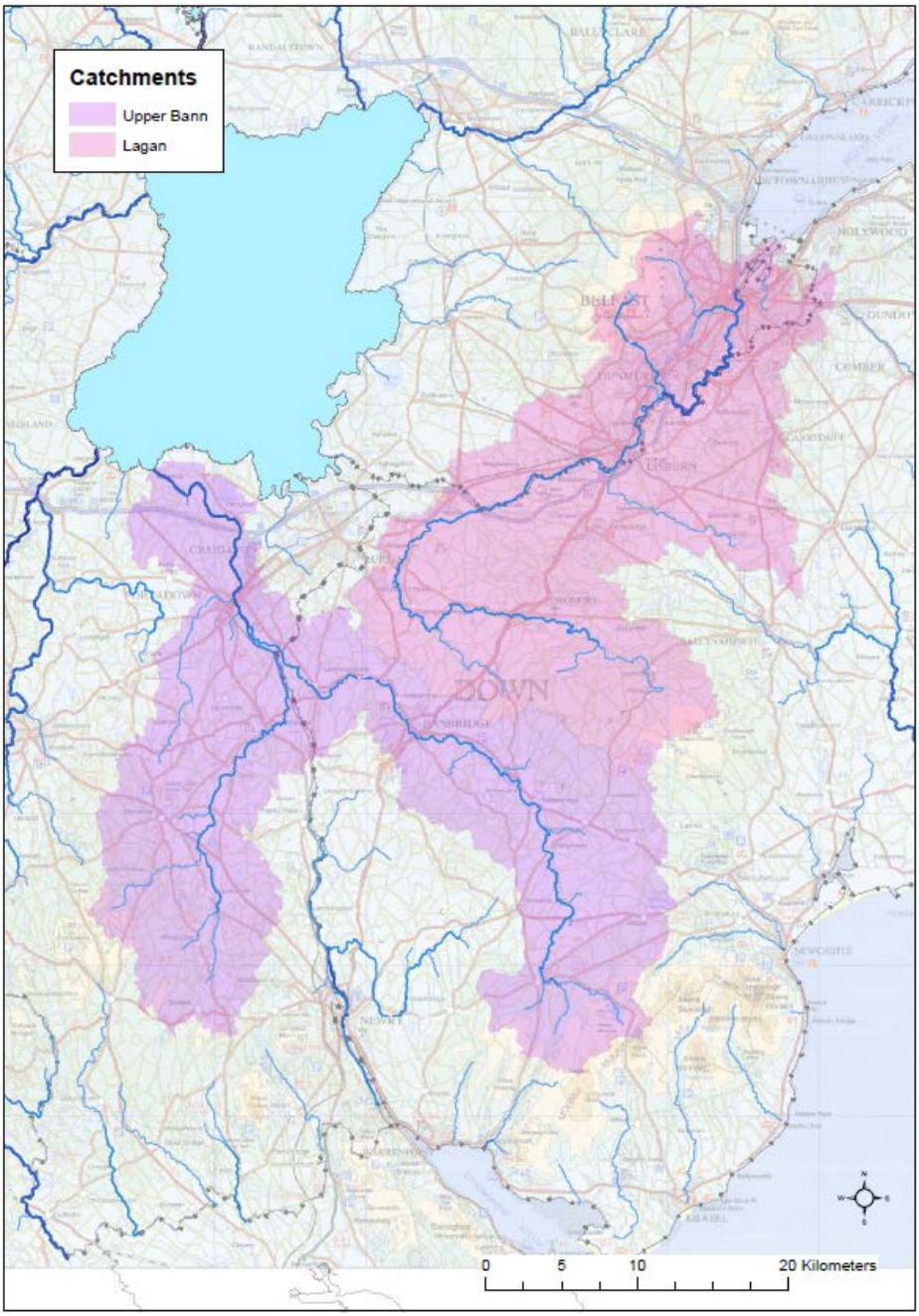
Iveagh Rapeseed oil is a clear yellow cold pressed oil produced from a certified OO variety grown and harvested within the rivers Lagan and Upper Bann catchment areas.

This unique oil has a silky mouth feel and has natural woody aromatic aroma. In appearance it is transparent and has a glossy vibrant yellow colour. This oil has a subtle mellow flavour with a grassy freshness and nutty overtones.

Unsaturated fatty acids – approximately 82.7g/100g
Monounsaturated fatty acids – approximately 52.8g/100g
Saturated fat – approximately 6.37g/100g
Residual moisture content - <0.1g/100g
Omega 9 fatty acids – approximately 57.3g/100g
Omega 6 fatty acids – approximately 19.1g/100g
Omega 3 fatty acids – approximately 10.4g/100g
Vitamin E content - approximately 25.5mg/100g

3.3 Geographical area:

Is defined by the River Lagan and River Upper Bann catchment areas.



3.4 Proof of origin:

All Rapeseed to be used as raw material for Iveagh Rapeseed Oil is to be grown within the River Lagan and River Bann catchment area

The Iveagh Rapeseed Oil production process is to strictly follow a 'Batch Management Process' in that once a quantity of Rapeseed has been brought together it is given a batch identifier that references production data, as the seed is processed through the production stages right through to the final product packaging and labelling; this is to ensure traceability and maintenance of product quality.

A batch is created from harvested Rapeseed, of a certified OO variety, that has been collected from fields that all lie within a circle of radius of one mile; this is to ensure consistency of product and product traceability. This resultant batch is to be given a thirteen-digit number; the first four digits are the year of harvest, the next six digits are the government issued farm business identification number and the last three digits, for each farm business, are sequential numbers starting in any one year with 001. This batch number so produced is unique and allows for traceability. This batch number so defined is hereafter referred to as the Iveagh Batch Number or IBN.

Each producer must be fully aware and comply with the standards of the quality scheme, which are set out below. A Certification Body has been set up to independently verify that producers are adhering to the required Standards of the scheme. The Certification Body is accredited to the European Procedures Standard EN 45011 by the United Kingdom Accreditation Services (UKAS). This is to ensure that producers are professional and auditable.

1.0 The Growing Crop

Participants must:

1.1 record all the cereal and combinable crop areas and outputs;

1.2 read and comply with the standards in the booklet, Code of Good Agricultural Practice for the Prevention of Pollution of Water.

1.3 keep records for at least five years after all grain/seed from all crops has been sold;

1.4 ensure all operators are competent and, where legally required, hold the appropriate certificate;

1.5 use the correct approved chemicals and follow the manufacturer’s instructions;

1.6 apply chemicals at the correct time and adhere to the proper intervals before harvesting;

2.0 Grain Stores

Participants must use only stores approved by the Department of Agriculture and Rural Development (DARD) which are:

2.1 weather-proof and impervious to water;
2.2 free from birds and controlled against vermin;
2.3 thoroughly cleaned each season before grain is put into them;
2.4 routinely sanitised against Salmonella contamination.

3.0 Harvesting Equipment

Participants must ensure that harvesting equipment is:

3.1 safe to use and guarded;
3.2 correctly adjusted according to the manufacturers instructions;
3.3 thoroughly cleaned before harvest;
3.4 free from all possible contaminants.

4.0 Transport and Handling Equipment

Participants must ensure that transport and handling equipment is:

4.1 thoroughly cleaned before harvest;
4.2 free from all possible contaminants.

5.0 Drying

Participants must ensure that grain drying facilities are:

5.1 thoroughly prepared and cleaned prior to initial use each season;
5.2 available as required;
5.3 adjusted according to the manufacturers instructions so that fumes from the grain drier do not contaminate grain;

5.4 managed so that the grain is dried to the appropriate moisture content and allowed to cool before storage.

6.0 Grain Treatments

Participants must ensure that:

6.1 oil seeds are not treated with preservatives or pesticides;

7.0 Grain Store Operation

Participants must ensure that:

7.1 floors are kept clean and dry;
7.2 store doors are kept shut at all times when not in use;
7.3 toilet and washing facilities are convenient to the store;
7.4 operators wear clean overalls;
7.5 there is effective separation and identification of batches of different seed types;
7.6 fishmeal and other animal by-products are not stored in the same building as grain;
7.7 livestock, farm pets and pests do not contaminate the grain;
7.8 reasonable precautions are taken to ensure that seed is not contaminated/damaged by vehicle wheels;
7.9 stored grain/seed is regularly inspected and monitored for the presence of insects, birds, rodents, moisture, excess heat and anything else which would cause deterioration or contamination of stored material. Prompt action must be taken to correct any deficiencies noted;
7.10 any material which is found not to meet the standard is immediately isolated and removed.

8.0 Transport Out of Store

Participants must ensure that:

8.1 all transport vehicles are inspected for cleanliness before loading;

8.2 the load is protected at all times using clean sheeting or close fitting covers.

9.0 Grain Passports

Participants must:

9.1 complete an oil seed passport in triplicate for each consignment – the mill and store copies are to accompany the load and the grower's copy should be retained.

Intermediate store owners must:

9.2 maintain records of intake, storage and deliveries to provide traceability of consignments. Grain passports for each consignment should be retained for inspection.

Copies of the labels accompanying the planted rapeseed seed must be associated with the batch identifier and passed on to the processor and oil producer. Field numbers of the batch's harvested crops and Farm survey numbers as defined by DARD must be recorded with the IBN and passed on to the producer to ensure a clear audit line.

All seeds from any specific batch must be derived from one variety, planted within any seven days using similar farming techniques and nutrient management; this is to ensure that each batch is consistent throughout and also allows different producers to introduce only subtle variations or 'notes' within the designated PGI. Growing and production records as required by the FQAS scheme above must be associated with the IBN and made available if required for traceability purposes.

All Rapeseed crops must be certified by the growers as grown without insecticides or pesticides. All batches of seed must be certified by growers and producers as not having been treated by insecticides. These certificates must be associated to the IBN.

Each unique batch of Rapeseed must be processed into oil by one processor. If a batch is to be split then the residue of the batch not going to the designated processor either–

Loses its PGI status and can no longer be used for production of Iveagh Oil.

OR has created for it a new IBN identifier as described above but using the next available sequential number. All of the associated data of the original IBN is copied to the new IBN and record of the split is recorded on both batch identifiers. This allows for traceability and product recall should circumstances require it

3.5 Method of production:

Processing must occur within the area defined by the Lagan and Upper Bann River basin catchment area; this is to ensure the close proximity of all people and processes in the production of Iveagh Oil; thereby enabling efficient communication and allowing personal monitoring of the rapeseed crop at all stage of its production.

Production is by batch; that is a parcel of Rapeseed that is produced according to the rules as defined by the PGI ‘Proof of origin’ section, is processed into bottled oil independently and free from contamination from other Rapeseed or oilseed crops. This parcel of seed is hereafter referred to as a ‘batch’ and must at all times be associated to an IBN (Iveagh Batch Number.)

To ensure consistency and quality the PGI process must follow the following stages as defined below.

Intake

Rapeseed that is suitable for the production of Iveagh Oil must have been produced under the rules for growers and processes as defined in the ‘Proof of

Origin' section in this document. This batch is acceptable for intake if the batch –

- is accompanied by an IBN with all of its associated records
- Is visually inspected and free from contamination and obvious defects such as evidence of spontaneous heating or 'sweating'.
- There is no evidence of moulds or growths within the seed.

If the moisture level of the batch is above 8% then the batch must be dried within two days of receipt.

Two samples of the seed must be taken, identified, dated and associated to the IBN. One sample is to be used to identify oil content, moisture, moulds and yeasts levels and bacterial levels as defined by the local environmental health office. The second sample retained as a historic record until one year after the expiration date of the last oil produced from that batch

Drying

Each batch is dried independently from any other batch so as to avoid contamination. Batches of Rapeseed that are larger than the design size of the dryer may be split; all of the resulting smaller parcels of the batch must be processed contiguously so as to avoid contamination with other crops.

Drying temperature must not exceed 108 degrees centigrade so as not to degrade the Rapeseed oil content or quality.

The target for acceptable drying must between 6% and 8% - this ensures that the dried seed is suitable for storage and subsequent oil extraction.

Adequate cooling time of continuous circulation to allow the Rapeseed temperature to fall to 40 Degree C before being taken out of the dryer; this minimises the deterioration of seed quality by being stored while too hot.

Drying records are associated with the IBN; these must include the date, initial and final moisture, maximum drying temperature and final temperature when leaving the dryer along with the total drying time.

Storing

In order to avoid contamination; batches are stored individually in Farm Quality Assured Scheme approved areas – these must be dry, vermin and contaminant free as required by the scheme. The identification of the storage area must be recorded on the IBN so, if necessary, the records may be accessed to allow possible contamination to be identified.

To avoid deterioration, batches prior to storage must have been dried according to the rules in the section above (drying)

The IBN needs to be associated with the date into store.

Process

Process is defined as all the procedures described below that affect the Rapeseed batch from when it leaves the store, referred to in the section before, until it is bottled and sealed from the atmosphere.

Processing occurs in batches or if the batches are to be broken down into ‘part batches’ then all part batches must be processed contiguously. This is to ensure the consistency of quality within the batch and to avoid contamination from other crops.

Once a batch or part batch has been started it must pass through the Cleaning, Pressing, Filtering procedures and stored in enclosed containers without delay. Once the oil has been produced at the pressing stage, access to the open atmosphere must be avoided and the system must be entirely enclosed.

The period of time for any sample of seed leaving the grain store until the oil from it is in a sealed, food grade container must not exceed 24 hours processing time. The process can be paused for up to 48 hours provided the oil is sealed using equipment such as a pressurised vessel. This is to ensure that the oil does not significantly deteriorate by oxidation within the process.

Cleaning

Seed cleaning is achieved by adhering to the following three-stage procedure; this will ensure that the seed is clean and free of contaminants.

1. The seed is passed under an aspirator; this will lift and remove any light material that is not healthy Rapeseed including detritus and straw.
2. The seed is then passed over a moving sieve with round holes of between 2.5mm and 3mm. The good seed will pass through this sieve and oversize seed and admix will be extracted.
3. The seed is then passed over a moving sieve with slots 1mm X 15mm. The good seed sized appropriately will not pass through, dust, damaged seed and other admix will pass through and it should then be removed.

The cleaned Rapeseed should then continue to the pressing stage without a delay. 48 hours is considered to be maximum period between cleaning and pressing; if this time is exceeded then the seed must be passed through the cleaning stage again to ensure that damaged seed within the batch that is exposed to the atmosphere is removed

Cold Pressing Process

The cleaned and dried Rapeseed as defined in the previous sections is to be then cold pressed; that is by using a plated screw press that expresses oil at a temperature that does not exceed 60°C. The screw press is of a design that the seed enters a groove in a rotating steel shaft formed into a tapered helical or a series of tapered helicals. The shaft is encased by a series of steel plates. As the rapeseed passes through the groove it undergoes pressure and the oil is extracted from between the individual steel plates and piped to the next stage of the process. At the end of the groove the residue or ‘cake’ is separated and removed.

The associated residue ‘cake’ must retain at least 12% oil to ensure that only ‘Extra Virgin’ oil is produced and any impurities that occur by more aggressive pressing are eliminated.

Primary Filtering

Filtering must follow on from the pressing stage without settlement of solids occurring.

The maximum temperature that the oil may enter the filtration stage is 50°C. This is to ensure minimum degradation of the oil and its efficient filtration.

An integral automated plate filter is to be used to avoid contamination of the oil; that is a series of filter plates enclosed within a pressure vessel that protects the oil from contamination and degradation. The pressure vessel filter must be capable of automated in-place cleaning, (without the use of water or solvents), thus ensuring no contamination of Iveagh Oil.

Intermediate Storage

The 'exit' of the process stage occurs when the resultant oil is stored in food grade airtight containers identified by batch.

Bottling

To maintain the quality oil in premium condition the final product must be stored in dark glass bottles this is to minimise the degradation of the Iveagh Oil by exposure to light.

3.6 Link:

Records show that oilseeds have been commercially grown in the designated area from well before 1656; in that year William Waring established his family seat in a town that later bore his name (Waringstown). His resident tenants included a weaver whose reputation, as a leader in his field was well known. Linen, his fabric of choice, was derived from the flax plant, which grew particularly well in his vicinity; in more recent years the Flax plant became known as Linseed. William Waring nurtured this proto-industry and over the subsequent years it became Irelands' largest export. The rivers Lagan and Upper Bann Valleys (the Iveagh area) established and retained a worldwide reputation for growing the finest Linseed derived products; it went on to win many awards throughout the centuries including the 1851 'Great Exhibition' gold award.

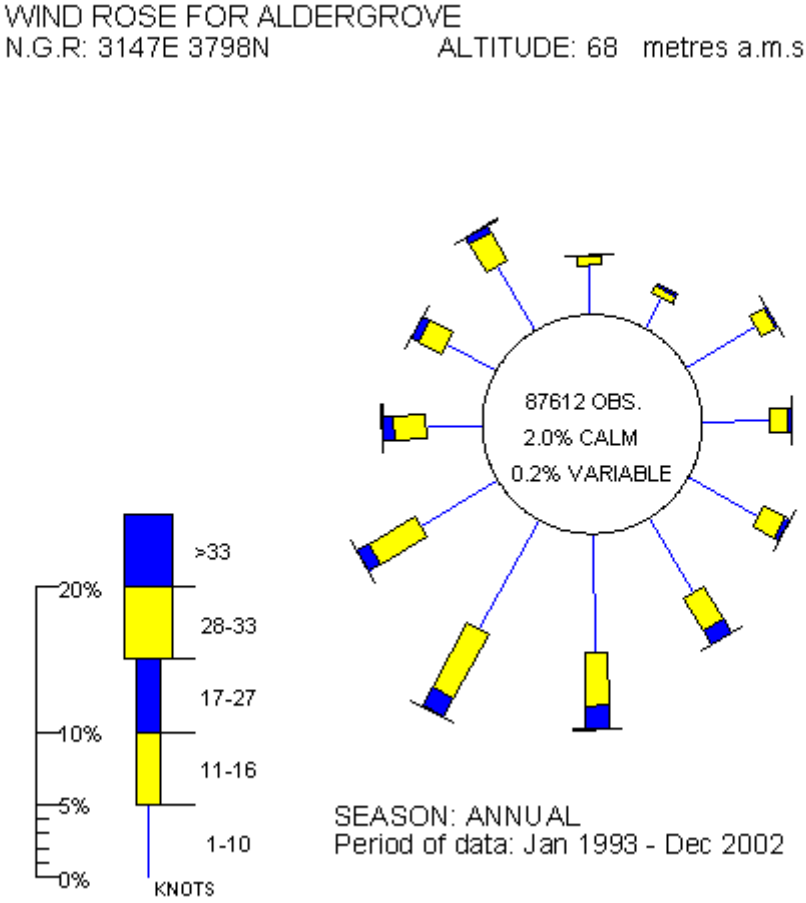
The advent of synthetic materials in the mid 20th century resulted in the production of flax and linen being uneconomical, however, the area continues to grow oilseed crops (Hemp, Linseed and Rapeseed) for the production of oils.

There are several factors that set aside the Iveagh area as the leading area to grow oilseed plants – including Rapeseed.

- **The Iveagh soil** or medium, in which the Rapeseed plant is grown, has a remarkable history that gives it a unique structure and composition that originates from the last great ice age. Hugh glaciers that spread right across Northern Europe scraped off a multitude of rock and soil types as the ice travelled southwest, mixing and breaking this moraine down as it was transported to the glacier's face. When the ice front receded it left behind this pushed material, as Terminal Moraine, piles of highly fertile soils known as Drumlins; the Drumlins of Co Down are world famous examples of this relatively rare phenomenon. The vast quantity of melt waters associated with the recession of these glaciers levelled some of these drumlins and formed the Bann and Lagan valleys. The action of the ice floodwaters and later of the Lagan and Bann rivers have produced and deposited these deep alluvial soils with great soil horizons. These rich Iveagh soils are ideally suited to the growth and flavour of oilseeds; some of which can put their roots down 2 metres!
- **The Local Climate** suits oilseed growth particularly well. The underlying climate is best considered as Maritime. The influence of the North Atlantic Drift protects the Iveagh area from extremes that are evident throughout the world at comparative latitudes (54°N includes Siberia and central Canada.) The prevailing south-westerly winds bring warm moisture throughout the growing season that reduces any drought-induced stress within the oilseed plants. The lack of long periods of high intensity sunlight, prevalent on continental landmasses, further reduces the stress upon the plant and improves the quality and quantity of oil produced within the Rapeseed seed. The above climate considerations explain why the island of Ireland can grow consistently higher quality oilseeds.
- **The Iveagh microclimate** improves again upon Northern Ireland's good oilseed growing conditions. Iveagh is nestled and surrounded by the Sperrin mountains to the Northwest, the Antrim Plateau and mountains to the North, the Mourne mountains to the East and the South Armagh mountains Slieve Gullion to the South. The valleys of the Iveagh area are sheltered are well drained and have slightly less quantity of rainfall while retaining similar

frequency thus ensuring the plant neither suffers drought or waterlogging. Being relatively remote from the sea – in Northern Irish terms, more sheltered by the surrounding high ground and by being in shallow valleys gives rise to relatively higher soil temperatures within the Iveagh area, thereby further enhancing the plants ability to thrive.

- **The Iveagh location** has a big influence on the production of Iveagh Rapeseed oil. The Northern latitude of Northern Ireland gives more daylight hours that significantly increases the percentage of oil contained within the oilseed. The less variable and greater number of hours of growing light reduces stress on the plant further improving consistency of flavour.
- **The Iveagh farming regimen** is largely grassland supporting the famous Northern Ireland dairy and beef industry. This has the important advantage of having a very low level of disease that can build up when intensive crop farming is carried out as found in most oilseed producing areas. The true rotation of oilseeds and grassland ensures many trace elements are replenished on a regular basis. The purity of the agricultural regime, small fields surrounded by extensive and biodiverse hedgerows, leads to high insect levels which in turn improve cross pollination and consequently ultimately improved flavour.
- **Low pollution within the Iveagh area**. The Iveagh weather comes predominantly from the South, West and North (see diagram below for wind patterns from 1993 to 2002); all these weather production areas are ocean. There are no heavy industry or pollution sources between the Iveagh area and the predominant weather sources. Therefore the soils are not polluted by the detritus and acid rain precipitated out of the atmosphere; so evident throughout much of the rest of Europe.



Awards

Blas na hEireann (the Irish Food Awards) is the biggest competition for quality Irish produce on the island of Ireland. Over 2,000 products are entered into the competition each year. The judges range from chefs, restaurateurs, academics, journalists, authors and caterers. The judging process was developed with the University of Copenhagen and is now recognised as an industry 'gold' standard worldwide. All products are blind tasted and Iveagh Rapeseed Oil won awards in 2013 and 2014, winning the gold award in 2014.

3.7 Inspection body:

Name: Environmental Health Office

Address: Armagh City, Banbridge and Craigavon Borough Council
Civic Centre

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Fax: 028 3831 2489
e-mail: info@armaghbanbridgecraigavon.gov.uk

The inspection body conforms to the principles of EN 45011 standard.

3.8 Labelling: