Appeal No. VA89/0/178

AN BINSE LUACHÁLA

VALUATION TRIBUNAL

AN tACHT LUACHÁLA, 1988

VALUATION ACT, 1988

Midland Malting Company Limited **APPELLANT**

and

Commissioner of Valuation **RESPONDENT**

RE: Malt House, Kilns, Stores, Grain Silos, Tanks and Mangers House, Lot No. 15AaBa
Townland: Garrycastle, E.D. Banagher, R.D. Birr No: 1, Co. Offaly
Rateability of redlar bins and barley germinating vessel

B E F O R E

Henry Abbott	**Barrister Chairman**
Padraig Connellan	**Solicitor**
Veronica Gates	**Barrister**

JUDGMENT OF THE VALUATION TRIBUNAL
DELIVERED ON THE 30TH DAY OF MAY, 1990

By notice of appeal dated the 16th day of August 1989, the appellants appealed against the determination of the Commissioner of Valuation in fixing a rateable valuation of £1,402.50 on the above described hereditaments.

The grounds of appeal as set out in the notice of appeal are that the valuation of £1,402.50 is excessive and inequitable and is contrary to the provisions of the Valuation (Ireland) Acts 1852 to 1986 and in particular the rating of certain process, plant and machinery is contrary to the provisions of Sections 7 and 8 of the Valuation Act 1986.

The property is located a few miles outside the town of Banagher, Co Offaly on the site of an old distillery. The business carried on there is the production of malt for home use and export, from Irish barley grown on contract in the greater Midlands area.

Midland Malting Co Ltd was founded in 1969 in response to the need for the establishment of a modern efficient malting plant to process locally grown barley.

The following précis of evidence were submitted to the Tribunal:

A. On behalf of the appellants

1. Précis of evidence of Mr Patrick Finn, B.Sc. (Biochemistry), Quality Control Chemist, Midland Malting Co Ltd., Banagher, Co Offaly. This was accompanied by a series of 27 photographs of the subject property and the following map title - Pneumatic Maltings, Midlands Maltings, Banagher dated July 1969 with reference 1127/6. Site layout plan reference 1924/4 dated March 1984. Map title Ga Redler Plant drawing number MM/121/90 dated May 1990.

2. A précis of evidence from Mr Desmond M Killen F.R.I.C.S., I.R.R.V., a Fellow of the Society of the Chartered Surveyors in Ireland and a member of the Rating and Revenues Association. Mr Killen is a director of Donal O'Buachalla & Co. Ltd.

B. On behalf of the respondent

1. Précis was received on the 10th May, 1990 from Mr Frank Gregg B.Comm H.D.E., District Valuer in the Valuation Office.

The Tribunal notes that both the appellant and the respondent have agreed on the amount of valuation to be attached to the various items whose rateability is in dispute in this appeal. The

items in dispute are the barley bins and Redler germinating vessel, particulars whereof are set out on page 13 infra.

The Tribunal feels that a summary of these précis would be useful at this point. In his précis, Mr Patrick Finn summarised the process involved in Midland Malting Co Ltd. He said that the malting process begins at the harvest when the green barley is selected for malting. This is followed by the drying, heating and incubation processes which eliminate dormancy and maximise germinative energy as fast as possible to produce malting barley. The malting barley is then processed in batches through all stages of malting. After the finished malt has been matured, it is blended and screened before being dispatched to the customer. From green barley to finished malt, there is continuous careful monitoring of all parameters by sophisticated computer controlled equipment and by managerial and operator supervision. Frequent sampling is carried out at all stages of the process followed by testing in the quality control laboratory to ensure that the highest quality malt is produced.

He said that spring sown barley of a malting variety is taken directly from the farmer at harvesting. During the six week harvest period 18,000 Tonnes of green barley is taken into the plant. It is dried, screened, assessed for quality and processed to break dormancy during the primary processing stages before malting may commence. Mr Finn said that the malting process is a complex series of processes involving steeping of the grain in water, germination and finally kilning. During the malting process many biochemical and physiological changes take place in the grain, the rate and extent of which are strictly controlled to give a final malt to meet different buyers specifications.

He said that there are two types of malting plant on site, the Boby plant (1969) and the Redler plant (1974). Both plants process barley to malt in a similar way but differ in their batch size and design of their germination and kilning vessels. Both plants have an annual capacity to produce

10,000 tonnes of malt each. There is an ongoing process of planning and improvement of the plant to maintain efficiency and quality at a high level. Some of the many milestones in the development were -

1. installation of heat recovery on malt kilns 1978
2. indirect firing of kilns, Boby 1983, Redler 1987
3. ventilated silos for breaking of barley dormancy 1978-89 and
4. computerised control of steeping, germinating and kilning in 1989.

With reference to map entitled Site Layout Plan reference number 1924/4 Mr Finn outlined the following bins. Bins 21 to 26, he said are identical in design. They are constructed of corrugated galvanized high tensile steel with wall stiffeners. They have top and side access with fill spout, and external and internal ladders. They are built on a concrete base which has inbuilt air ducts and discharge auger tunnel. The aeration ducts in the floor are covered with galvanized steel choc bar which allows adequate ventilation. He said that the silos are fitted with sweep and discharge augers. The sweep consists of a heavy duty auger with flights, in a square frame in the centre of the bin. The sweep is driven by an electric motor. At the outer end of the auger is a progression drive which keeps the auger in the grain mass. The discharge auger consists of a heavy duty auger in a tubular steel cover complete with inlet hopper which is positioned in the centre of the bin. Mr Finn said that the auger motor and drive is mounted outside of the bin and the feed is controlled by a slide operated outside the bin. The bins are fitted with the Foss Thermoscan System for temperature monitoring. This system consists of heavy duty cables running top to bottom each containing seven electronic temperature sensors. The sensors are terminated at a central control panel where the temperatures are read using a portable digital display unit.

Mr Finn then also in relation to the site map outlined bins number 14 to 20 as follows:

He said that these are identical in construction to bins 21 to 26 and differ only in that the sweep auger is a portable unit which is fitted on a central spigot and instead of individual discharge augers in each bin the discharge hopper feeds directly into a conveyor which is common to bins 14 to 20. He said that all bins have sampling ducts to facilitate sampling of the barley at different levels within the bin.

Mr Finn then gave the following information on all of the bins mentioned above and on bins number 1 to 7 and 8 to 13 which are malt maturation bins as follows:

Bin No.	Type	Capacity	Year of Construction	Picture
14-20	O'Brien	7 x 600T	1978	Centre P. 26
21,22,23	Reed	3 , 1800T	1979/80/81	Left P. 26
24,25	Bentall/ Simplex	2 x 3000T	1984	Left, Centre P. 6
26	Brice/ Baker	1 x 3000T	1988	Right P. 6

Malt Maturation Bins:

Bin No.	Type	Capacity	Year of Construction	Picture
1-7	Simplex	7 x 150T	1974	Middle P. 27
8,9,10	Simplex	3 x 250T	1974	Right P. 26
11,12,13	Simplex	3 x 300T	1974	Right P. 26

The reference of the relevant photograph is also given.

Mr Finn outlined the Boby Plant and the Redler Plant and these descriptions are reproduced in full.

Boby Plant - General View P. 27

The Boby Plant consists of the following:

4 cylindroconical steeps of mild steel and 50 T capacity with stainless steel perforated floor in bottom cone P 11,12,13, equipped with pressure and suction aeration facilities, temperature monitoring, filling and draining valves, dust sprinkling and conveyors for loading and unloading.

G.V.'s 2 germinating vessels, P 14, 15, cylindrical, of mild steel, capacity 95 tonnes. Each has a perforated wedge wire floor, humidification chamber and suction chamber, a fan with volume reduction facility, air ducting to allow passing of humidified air and recirculation, loading and unloading equipment, turning and spraying equipment, temperature monitoring and are equipped for automatic operation.

Boby Kiln: The Boby kiln is cylindrical, of mild steel, has a capacity of 95 tonnes (as dry barley), and outer cladding. It is equipped with a perforated floor, fan with volume reduction, air ducting with recirculation flap, heat recovery radiator, indirect firing, temperature monitoring and control, loading and unloading equipment.

All of the above have interconnecting elevators and conveyors for transfer of barley into steeps, from steeps into G.V.'s and to and from malt kiln.

Redler Plant: General view P. 16

The Redler Plant has 3 steeps similar in design to the Boby steeps P. 17, 18, and 2 germination vessels, P. 19, 20, 21 and 22. The vessels are rectangular, made of mass reinforced concrete with a reinforced concrete roof covered in asphalt.

They have underfloor humidification chambers, P. 22, slotted floor to allow free air circulation, with germination fan and humidifiers at front end, and a set of germination doors for germination mode. They also have a fan and furnace at the back end to facilitate drying of green barley and green malt. The vessels are also equipped with loading and unloading, turning and water spraying machines, automatically adjusted dampers to regulate air on/air off temperatures.

Mr Finn then defined for the Tribunal the following items

1. Barley for malting
2. Germinative capacity
3. Germinative energy
4. Dormancy
5. Dormancy breaking
6. Malt.

As this is the subject matter of Mr Finn's evidence it is not proposed to reproduce his evidence here.

Mr Finn then describes the malt production procedures at Midland Malting Co Ltd and refers to the relevant photograph numbers throughout.

He said that the raw material for malt production, green barley, is grown under a strictly controlled contract system. The acreage under each variety is known and the barley crop is examined at intervals to ensure proper husbandry procedures.

On arrival at the Maltings, the barley is sampled at the automatic sampling station (P. 2) and examined both qualitatively and quantitatively. If the barley is sub standard, it is rejected. The barley is dried in batches of 70-150 tonnes. The vessels used for barley drying are the Redler G.Vs (P. 19, 20, 21 & 22), the Boby G.Vs (P. 14, 15) and Boby kiln. A temperature is selected to ensure adequate drying while maintaining the viability of the wet grain during drying. The barley is dried to 11-12% moisture and heated to 30 degrees approx and then transferred to specially designed equipment which enables the process temperature to be accurately controlled between 25 and 30 degrees C. These vessels are the barley bins (P. 5, 6, 7, 8 & 9).

The purpose of this stage of the process is to introduce breaking of the dormancy of the grain. This process continues for 10-14 days during which time the grain temperature is continuously monitored by electronic temperature sensors. When the dormancy is broken the grain is then cooled to less than 17 degrees C to minimise chances of deterioration before the next stage of the malting process. There are three more stages in the malting process. The steeping of the barley, the germination process and finally, kilning.

Steeping

The selected barley is screened over a 2.2mm screen until there are less than 1% of grains under 2.2mm diameter. The batch to be steeped is weighed and transferred to the cylindroconical steeping vessels (P. 11, 12, 17 & 18). These vessels have aeration and gravity discharge facilities. Steeping involves a short initial steep followed by a long interrupted steeping procedure in which the wetting period is interspersed with rest periods during which air may be drawn down through the grain bed.

Germination

During germination, the grain is induced to grow and develop the endosperm enzymes which will modify the endosperm starch, proteins and cell wall materials to useful extract. The malt is germinated in germination vessels in deep beds (P. 14, 21) that are turned mechanically and are attemperated by the forced passage of a strong flow of humidified and attemperated air. This "pneumatic system" is extensively automated and capable of producing 20,000 tonnes of malt per annum. Two types of plant are in use, a Vickers Boby plant and a Redler plant but the identical general principles apply to both. The only difference between the Boby G.Vs and the Redler G.Vs is that one is circular and the other is rectangular.

The primary design and use of these germination vessels is to induce the process of germination in the malting barley. The Redler G.Vs can also be used to dry the green barley at harvest time and green malt after germination has been induced. This later secondary use has been found to be inefficient and uneconomic and has been discontinued.

Water saturated and attemperated air is blown through the bed of grain, 1.5m deep, at a rate of 4m/min giving about three air changes per minute. The air is conditioned by passage through many fine sprays of water. The spray water drains to a sump and is re-circulated. The air from the grain bed may be re-circulated or may be wholly or partially replaced by fresh air. The average temperature difference across the batch is 2 degrees centigrade. The batch is cooled by reducing the air on temperature or increasing the air flow rate. The germination temperature is 16-18 degrees C.

The germinating grain is periodically turned to loosen the batch, allow easier passage of air, prevent matting of roots, break up local hot spots and so increase the uniformity of the product. The green malt will be turned three times in 24 hours. During germination, water is lost by

evaporation and some is incorporated into the products by hydrolysis. Water content is maintained by spraying water on the bed during turning. Water is sprayed after 15 hours. Daily samples are withdrawn from the germination vessel for moisture determination. Moisture content drops from an initial 45% from day three onwards to a final moisture of approx 42% on day five. At the end of germination in a well modified malt, 75% of the cell wall beta glucan is broken down, 40% of the protein is solubilised and 5-10% of the endosperm starch solubilised. The aim is to get efficient beta glucan and protein breakdown while minimising the loss of sugar products to the rootlets.

Kilning

In order to reduce the level of oxides of nitrogen entering the kiln from the furnace gases, an indirect firing system is employed. The furnace burns 3,500 sec. heavy fuel oil which heats a thermal fluid that circulates in a loop between the furnace and a heat exchanges through which the air onto the kiln passes. The temperature of the air immediately below and above the grain is measured with remote indicating electrical thermometers and the data is continuously recorded on a chart.

The kind of malt required determines

1. the duration of kilning
2. the intensity of curing
3. the degree of modification when the malt is loaded on the kiln
4. the moisture content of the malt when curing is begun
5. the temperature programme which precedes the curing stage.

Many chemical changes occur during kilning that affect malt colour and flavour. These effects are taken into consideration when producing malt to meet a required specification. A complete range of malt is produced

1. stout malt for home and overseas breweries
2. lager malt
3. distillers malt (peated and unpeated)_
4. pale ale malt.

The final moisture content of the malt at the end of kilning is in the range of 3-4%. After kilning, the malt is removed to the malt maturation bins where it matures for approx. 3 weeks before dispatch.

In a written submission received on the 10th May, 1990 Mr Des Killen said that the matters at issue and for the determination of the Tribunal is the rateability or otherwise of the grain bins and the germinating vessel (Redler plant). He said that the amounts of valuation attributed to these items have been agreed with Mr Frank Gregg of the Valuation Office on the 26th April, 1990 and he then sets out as follows the agreed items and their rateable valuation as agreed between the parties on the items in dispute.

	V.O. Nos.	Company Nos	Capacities	Tonnes	R.V.
Bins	25-31	14.20	7 x 600	4,200	
	53,54,55	21,22,23	3 x 1800	5,400	
	56,57	24,25	2 x 3000	6,000	
	Total			15,600	£390
	68	26	1 x 3000		75
	Total - bins				£465
	Germinating Vessel - (Redlar Plant)				185
	Total				£650

Mr Killen said that the "Maltings", with its various installations, is registered under the Factories Act and is subject to inspection by personnel from the Department of Labour. He says that the "Maltings" comprise two types of maltings plant: The Boby Plant (1969) and the Redler Plant (1974). He then outlines what each of these plants consists of. The Boby plant consists of -

(a) 4 cylindrical steeps of mild steel, equipped with pressure and suction facilities, temperature monitoring, filling and draining valves, dust sprinkling and conveyors for loading and unloading. The capacity of each steep is 50 tonnes.

(b) 2 germinating vessels, cylindrical in shape, of mild steel, with a capacity of 95 tonnes each. Each has a perforated wedge wire floor, humidification chamber and suction chamber, a fan with volume rein facility, air ducting to allow passing of humidified air and recirculating, loading and unloading equipment, temperature monitoring and control equipment and automatic operational equipment.

He said that the Redler Plant consists of -

(a) 3 cylindrical steeps similar to those in the Boby Plant.

(b) 2 germinating vessels/boxes, rectangular in shape and constructed of reinforced concrete. Each has a perforated wire floor, humidification chamber to allow free air circulation and to induce germination. They have loading and unloading equipment, turning and water spraying machines and automatically adjusted dampers to regulate air on/off temperatures.

Both plants are automatically controlled by computer from the central control station.

He said that the items in dispute do not include the Steeps and Germinating Vessels in the Boby Plant, nor the Steeps in the Redler Plant.

Mr Killen said that the Commissioner of Valuation has deemed these items to be exempt from valuation as either non-rateable machinery or plant, as per section 7 and/or section 8 of the Valuation Act, 1986. He contends that the Redler Plant germinating vessels/box fall to be considered in the same light.

In a written submission dated the 10th May, 1990 Mr Frank Gregg, a district valuer in the Valuation Office says that he inspected the hereditament in April 1989, April 1987, April 1985 and found that it consisted of a manufactory for the production and storage of malt. Mr Gregg outlined the items in dispute as follows:

(1) Malt House. Block 43.

Concrete walls and concrete slab roof.

Dimensions:

44.6 m long; 17.2 m wide; 5.4 m height; Valuation £185

(2) Barley Silos

3 x 3000 tons = 9000 tons

Nos 56, 57, 68, (appellants Nos 24, 25, 26)

Nos 25 to 31 (appellants Nos 14 to 20)

7 x 600 tons = 4200 tons

Nos 53, 54, 55 (appellants Nos 21, 22, 23)

3 x 1800 tons = 5400 tons

18600 tons @ 2½p £465

Disputed valuation £650

Total valuation on buildings £1400.00

Total valuation on land £ 2.50

He said that quantum is agreed on all the items of valuation above. Mr Gregg then goes on the describe the process involved in the malting barley and proceeds to give an outline of the items in dispute as follows:

(1) Block 43 Malt House. Germinating/Kilning Boxes

Mr Greg said that this is a building constructed of reinforced concrete insulated walls and asphalt over precast and prestressed concrete slab roof. There is a concrete floor and concrete internal wall which divides the building into two sections for germinating and kilning boxes. He said that the building is approximately 147 feet long; 56 feet wide and 18 feet high, adjoins the steep house and receives the steeped grain for germination from there. He said that it has a treble purpose (1) drying of harvest barley; (2) germinating of barley into malt; (3) kiln drying of malt.

Mr Gregg said that each of the two sections has an air corridor and a supported steel mesh perforated floor and it can be made air tight by means of doors at both ends. Along this corridor the moist air is blown in the germination process and the hot dry air is blown in the kilning process. He said that the grain is fed into the kilning boxes on the upper chamber and so it is aerated from underneath the perforated floor.

He states that the grain germinates naturally in these moist conditions of 44% moisture and produces its own heat of germination. He said that an automated grain turning machine moves intermittently along the grain turning the sprouting grain as it travels thus preventing a matting of the grain. Thus the grain is allowed to grow for five days only and the resulting partially grown, internally altered grain is called malt.

Mr Gregg said that then the process is stopped by removing the moisture which is done by applying hot dry air to the grain from a furnace over a period of approximately 40 hours and the

grain is dried in these same germinating/kilning boxes down to 3% moisture content. He said that this kiln drying has since been discontinued in the germination/kilning boxes and is now done in a new Siegar kiln which has not yet been valued and is not the subject of the current appeal.

Mr Gregg said that the separate chambers in the Redlar Plant have not been valued and the germination/kilning boxes have not been valued. The only item valued here is the outer shell of the building.

(2) Barley Silos — Nos 25 to 31 (local Nos. 14 to 20)
Nos 53, 54, 55 (local Nos 21, 22, 23)
Nos 56, 57, 58 (local Nos 24, 25, 26)

Mr Gregg said that these silos are all cylindrical in shape and constructed of galvanised (corrugated) steel. He said that they are flat bottomed bins with a concrete base and corrugated steel sheeting on the sides which is bolted onto steel upright supports and have cone shaped tops. They are served by a conveyor system for discharging and emptying grain and the conveyor is activated by a motor fixed outside. He said that fans are erected outside the silos and are connected to an underground ducting system which allows for aeration of the grain in the silos from underneath the floor.

Mr Gregg said that grain is fed into the silos from the top and there is a natural gravity discharge from the bottom. The sweep augurs are used to discharge 10% of the grain from the bottom of silos 56, 57,68, 53, 54 & 55. He said that these silos are used to store harvest grain that has been kiln dried i.e. the raw material from which malt is produced. They are filled once a year with this dried grain and they store the grain until it is required for malting. He said that this storage can last for months. Mr Gregg said that since all the raw material is produced and distributed by

the contract growers at harvest time and since the actual malting process is going on throughout the year (it takes nine days to malt a 200 ton batch - two in the steeps, five in germination and two in the kiln - there is inevitable long term storage of the raw material and these silos accommodate part of this storage. He said that other raw material storage facilities include outlying stations.

Mr Gregg said that the silos are flat bottomed and mounted on a concrete base. They are filled with barley (hot off the kiln) through the top by gravity drop from the overhead conveyor system. He said that even though the grain has been kiln dried, its temperature can rise further during storage due to natural respiration of the grain, possible uneven drying, grain mite and insect activity, and other factors (there is a large mass of grain). He said that the temperature is controlled by the intermittent movement of air through the contents in the silo which is achieved by fan mechanism. Each silo, he said, has fans attached to the concrete at the base of the silo (not to actual silo) and the fans are connected by duct to aeration ducts in the concrete base under silo, and when required, the activated fan gives a movement of air through the silo. The temperature of the grain in the silo is monitored by temperature sensors which indicate when air movement is required, and the fan is activated occasionally by pressing a button (to reduce temperature).

Mr Gregg said that the main purpose of aeration of the contents of the silo is a preventative one - it prevents an excessive and damaging rise in temperature. He said that the silo empties for the most part (approx 90%) by gravity discharge through the bottom or the base, but there is a residual cone of grain (approx 10%) which is cleared by a sweep and discharge augur. The grain is then carried away by conveyor to wherever required. He said that if the grain overheats it can be taken out from the silo and back to the driers for attention. No action other than aeration goes on in the silo.

ORAL HEARING

The oral hearing took place on the 14th, 22nd and 23rd days of May, 1990. Mr. Marcus Daly S.C., and with him Mr. Marcus Daly B.L. (instructed by Hoey & Denning, Solicitors) appeared on behalf of the appellants. Mr. Donal O'Donnell (instructed by the Chief State Solicitor) appeared on behalf of the respondent.

(A)

Evidence was given by Mr. Patrick Finn and the Tribunal found as follows:

1. Mr. Patrick Finn is a B.Sc. and is employed as a Quality Control Chemist by the appellant at the Plant subject of this appeal in Banagher, Co. Offaly and has been employed by the appellants since 1983. Prior to employment Mr. Finn was employed by An Forus Taluintais and is an expert in relation to the processes involved in the handling of barley from assembley as green barley off farm, to the final stages of malting thereof, and the production and handling of barley malt.

2. The appellant is a limited liability company, and occupies and operates a malting facility at Banagher in the County Offaly.

3. Photographs Nos. 1, 5, 6, 9, 10, 26 and 27 show the layout and construction of the barley bins which are the subject of this appeal and particulars thereof and the most helpful relevant photograph relating thereto is given in the details contained in the following table:

Bin No.	Type	Capacity	Year of Construction	Picture
14-20	O'Brien	7 x 600T	1978	Centre P. 26
21,22,23	Reed	3 , 1800T	1979/80/81	Left P. 26

24,25	Bentall/ Simplex	2 x 3000T	1984	Left, Centre P. 6
26	Brice/ Baker	1 x 3000T	1988	Right P. 6

The said barley bins are constructed of corrugated galvanized high tensile steel with wall stiffners. They have top and side access with fill spout, and external and internal ladders. They are built on a concrete base which has inbuilt air ducts and discharge over tunnell. The aereation ducts in the floor are covered with galvanized steel choc bar which allows adequate ventilation, the bins are fitted with sweep and discharge augers. The sweep consists of a heavy duty auger with flights in a square form in the centre of the bin, the sweep is driven by an electric motor. At the outer end of the auger is a progression drive which keeps the auger in the grain mass. The discharge auger consists of a heavy duty auger in a tubular steel cover, complete with inlet hopper which is positioned in the centre of the bin. The bins are loaded by conveyors loading the grain from the top thereof and the bins may be discharged by either auger or flow feed and are generally finally discharged by auger feed. The bins are fitted with the Foss Thermoscan System for temperature monitoring. This system consists of heavy duty cables running top to bottom each containing seven electronic temperature sensors. The sensors are terminated at a central control panel where the temperatures are read using a portable display unit. The bins number 14 to 20 while identical in construction to bins 21 to 26 differ somewhat in that the sweep auger is a portable unit which is fitted on a central spigot and instead of individual discharge augers in each bin the discharge hopper feeds directly into a conveyor which is common to bins 14 to 20. He said that all bins have sampling ducts to facilitate the sampling of barley at different levels within the bins.

4. All bins are connected to each other and to other facilities in the plant by extensive series of augers and conveyors enclosed in casings or pipe housing to facilitate easy and efficient movement under remote control of barley in and out of the bins or from one bin to the other or into another number of bins. The layout of the bins and the connecting conveyors and augers facilitate the complete automation of the system either under central control or in other more diverse collective remote control facilities.

5. Attached to the barley bins are bin aereation fans which predominantly act so as to suck air out of the bin through the aereation ducts and the floor thereof and thereby aereate the barley contained therein. The purpose of aereation is to control temperature by reducing same and by aereation to preserve barley from the harmful effects of natural temperature rise and development of harmful parasitic infestation of various kinds. The circular nature of the grain bins and the extensive inter connection thereof by augers and conveyors coupled with the aereating fans and temperature controls result in the series of bins being more suitable for the blending, mixing, monitoring and storage of grain than a flat floor warehouse type system. The barley bins can be regarded as ventilated barley bins.

6. In the autumn at harvest time farmers deliver barley to the appellant premises. The barley on the lorries or trailors being delivered to the premises is sampled by an automatic or semi-automatic grain sampler which consists of an automated arm with a pipe which descends into the load of barley in order to get a representative sample thereof. Barley coming in in this way is known as green barley. It is typically high in moisture content generally between 20% and 23% moisture but the range of moisture content can differ widely depending on harvesting conditions. The green barley must be dried in order to be stored in the barley bins or in any similar bulk conditions. Barley is divided into two types, generally - Malting Barley and Feeding Barley. The appellants

installation at Banagher deals exclusively with malting barley, and, it's treatment of the grain from start to finish is governed by the fact that the qualities of malting barley are not damaged or caused to deteriorate by any handling or process occurring in the appellants' installation and in fact are preserved, improved and encouraged.

7. Malting Barley is barley which is grown, bred for, and intended for ultimate use in the malting process, which, inter alia, involves a process of germination and exploitation of the living nature of the barley seed. To preserve and encourage the living nature of the barley seed is to ensure the malting quality and nature of the barley, provided other certain steps associated with the malting process are taken. Preservation of the natural living quality and capacity to germinate is therefore absolutely essential in the handling of malting barley.

8. In the malting business two important technical descriptions of the vital living aspect of the malting barley grain have emerged, and are used as one of the main measures and specifications of the malting quality of barley. The first is germinative capacity of the grain which is the percentage of grains which though dormant and incapable of immediate germination may ultimately germinate when dormancy ceases and in technical parlance is broken. The second is germinative energy which is the percentage of grains which will germinate when dormancy ceases after a variable lapse of time. Germinative capacity is thus a measure of the potential of the grain, and, germinative energy is a measure of the realised capacity on any particular day.

9. At harvest time the barley has a very low germinative energy but if it is to be accepted as proper quality malting barley it must have a germinative capacity of as close to 100% as possible and certainly not less than about 97%. At harvest the germinative energy may be in the region of 20%.

10. Heating of the malting barley can kill the germinative capacity and vital element of the barley. Drying the green barley down to storable moisture levels involves blowing hot air through the barley in a grain dryer and this inevitably raises the temperature of the barley.

Great care is taken in the appellant's installation to ensure that the drying temperature in the grain dryers which are used to dry the green barley when taken in at harvest time does not exceed 40 degrees centigrade. Care must also be taken that in special harvest conditions which give rise to a sudden flood of green barley coming in from farmers that the green barley which cannot be dried in the dryers or drying facilities for the moment can be safely stored so that the same does not deteriorate. Grain bin 21 is used to store such grain.

Feeding barley which is not intended for malting may be, and usually is, dried at much higher temperatures up to 70 degrees centigrade. Such higher temperatures above 40 degrees centigrade kill the germinative capacity of the grain and are totally unsuited for the drying of malting barley.

11. When the drying process is over, the moisture content of the green barley is reduced to approximately 11% and on coming off the drying facilities the barley is hot. In normal circumstances the barley thus leaving the drying facilities in a hot condition (especially feeding barley) is cooled down to much lower or ambient temperatures by cooling fans either inside or outside the drying facility to ensure a lower temperature to facilitate ease of storage as storage at the higher temperatures at which malting barley or feeding barley might leave the dryer is quite dangerous and carries with it the risk of increased

temperatures and/ or much damaging insect or parasite activity. The appellant's installation is different from that which would conventionally handle feeding barley or some malting barleys insofar as the grain leaving the drying facilities is not cooled down to ambient temperatures or cool conditions for storage, but instead, is, after screening to eliminate small seeds and testing for malting and germinative capacities and moisture content, transferred by automative process to the barley bins to be stored there at 30 degrees, until a process described as breaking of dormancy occurs.

12. Malting barley of different varieties and grown and harvested in different conditions and in different years and periods all have different dormancy periods in which the germinative energy of the barley is low and certainly much lower than is acceptable for immediate malting by the maltster. Principally, the dormancy period is determined by the variety of the barley. The appellant's installation takes in and uses four varieties of malting barley. These are Grit, Corniche, Blenheim, and Triumph. These varieties vary in their length of dormancy in the order in which they are herein listed with Triumph being the barley with the longest dormancy period.

13. Not long prior to the construction and onset of installations of the nature of the appellant's installation malting barley was generally harvested over a more protracted harvest period involving the cutting of the crop stacking it and threshing it and deliveries of barley from farmers would generally continue up to and into December in any year. Malting would only commence when the harvest deliveries were complete in January of the new year after harvest by which time dormancy in the malting barley would have broken and it would have achieved it's natural germinative capacity. Nowadays with the advent of the combine harvester with high capacities and fast work rates combined with bulk deliveries from the farm the harvest period is much shorter, and generally is about six weeks terminating in the end of September. This means that the appellant's installation and

physical and other resources are free and available to commence malting from the beginning of October in the harvest year. However, most of the malting barley will not be suitable for malting at this stage by reason of the fact that it may not have a germinative energy matching its germinative capacity up to adequate malting standards. While the variety Grit may break dormancy in a year in which harvest conditions are dry and warm at an early stage and might soon be ready for malting at this stage, even an early dormancy breaking variety such as Grit may not always provide such early readiness by reason of cold damp harvesting conditions, and other factors. Furthermore, brewers and distillers who eventually purchase malt the end product of the malting barley after processing by the appellants often wish to buy malt produced by particular varieties such as Triumph which are very late in breaking dormancy, at a time when dormancy, in the natural course of things, would not be broken; that is to say in the months of October, November and December.

14. To enable the malting process to begin at the end of September early October, (earlier than it might by reason of natural occurrences commence), the appellants have carefully designed a method by which dormancy in the various varieties of barley is broken prematurely. This method is of significant importance to the decision of the Tribunal in relation to one aspect of the appeal.

15. The method by which dormancy is broken earlier than by ordinary methods of storage after initial cooling on leaving the drying facilities is for the appellants to postpone cooling the malting barley below 30 degrees centigrade and to deliver by mechanical means the barley which is thus left heated at 30 degrees into the barley bins. The malting barley thus transferred to the barley bins and stored under very controlled, and carefully monitored conditions, to ensure that temperatures do not increase significantly above 30 degrees.

16. The malting barley thus stored in the barley bins at 30 degrees has a tendency to insulate itself thus retaining heat. It also has, in certain instances, (perhaps due to uneven drying or other causes), a tendency to develop hot spots which are dangerous to the vitality of the malting barley. If the temperature monitors indicate the occurrence of such hot spots, the temperature of same is controlled by the early turning of the barley by conveying or moving it by way of conveyor or auger to another bin or other bins. The turning process permits the spreading of the hot spot barley amongst cooler barley without much loss of temperature and at the same time ensures the elimination of the concentrated rise in temperature in the hot spot.

17. Generally, the air fans are not used to control temperature at this stage.

18. The objective of storing the malting barley at the warm temperature 30 degrees is to accelerate the breaking of dormancy. Research has shown, and the experience of the appellants as expert maltsters and handlers of malting barley is, that dormancy may be broken significantly earlier than in the natural course of things where barley is stored, aereated, and carefully monitored in the normal way at cool, or, ambient temperatures.

19. The variety Grit is typically in the bins in the heated condition for a period of two to three weeks from drying before dormancy breaks. Other more dormant varieties are stored somewhat longer and dormancy breaks sequentially between Grit, Blenheim, Corniche and Triumph.

20. The batches of grain in the various barley bins are carefully monitored during the warm storage period for breaking of dormancy, and the bin system greatly facilitates the separate storage of different batches of barleys which can be isolated by reference to the

variety or by reference to meeting particular malting specifications. When monitoring indicates that the dormancy has broken, the aereation fans on the barley bins are activated to suck air through the barely stored therein so as to reduce temperature close to ambient at 17 degrees or less, thereby ensuring a cool storage. The malting barley is then ready for malting.

21. On average the breaking of dormancy by the warm method is complete in about six weeks. There can be variations in this period and in the wet damp harvest of 1985 and 1986 particular difficulty was experienced in breaking dormancy even by this method and there were long delays involved.

22. The use of augers and elevators to load and unload bins, and the gravity induced conicle and inverted conicle patterns created by the falling grains on loading and unloading respectively facilitate the mixing and blending of malting barley and sometimes such mixing and blending of malting barley is necessary to ensure that the appellant as maltster can meet the special and unique specification requirements of particular brewer or distiller customers.

23. The plant which deals with the barley when it is ready for malting is as follows:

    i. A Boby plant consisting of a Boby germinating vessel, Boby steeps and Boby kiln are housed in a conventional asbestos clad industrial building and

    ii. a Redler plant consisting of a set of Redler steeps which are housed in the Redler steep room. A Redler germinating box structure which had in 1988 the year relevant to this appeal a triple use of germinating box, drain dryer and kiln dryer. The Boby steeps and kiln dryer may also be used as grain dryers at harvest time.

24. The overall function of both the Boby plant and the Redler plant is to induce the malting barley to germinate and produce malt by a steeping process followed by a germination period after which the malted barley referred to by the appellants and in the trade and in this judgment as green malt is kiln dried down to a very low moisture level of 3 to 4 %. Details of the procedure of malting at the Boby plant and a description of the relevant details of the Boby plant are as follows:

> The malting barley is batch loaded into the Boby barley steeps which are cylindrical vessels made of metal which allow periodic saturation of the malting barley with water together with periodic or continuous aereation by means of numerous air pipes to remove toxicity and gasses in which the malting barley is steeped over a period of approximately 48 hours, and transferred one to the other for different types of steeping treatment. After the malting barley has been thus steeped it is removed at about 44% moisture into the Boby germinating vessel. This is again a metal vessel which is totally enclosed and described in the relevant photographs of the appellant's set of photographs which contains a perforated floor designed on the one hand, to hold up significant load of very moist barley, and, on the other, to permit free flow of air from the air chamber below up through the barley which is placed at a depth of some feet thereon. The germinating process may only efficiently occur if there is a properly maintained temperature, and, if there is total humidity maintained at all times. One of the primary purposes of the Boby germination chamber is to ensure humidity by means of fans pumping pressurised air under the perforated floor under the Boby germination vessel which is by means of sprays and water atomisers saturated with moisture. Temperatures are maintained either by recirculation of air or by additional outside heat. The Boby germination chamber is a pneumatic chamber, insofar as internal pressure is considerably higher than outside pressure and it is necessary to have airlock access into the germination vessel by reason thereof.

The internal environment of the Boby germination vessel is thus a very carefully controlled and monitored one depending on the careful design and operation of the vessel. The malting barley in the Boby germination vessel must be continuously and gently turned to ensure that the rootlets on the grains formed during germination do not combine to form matting or lumping of the germinating barley and for that purpose a moving arm containing revolving augers circulates from a central axis inside the Boby germinating vessel ensuring that at regular periods all the barley in the Boby germination vessel is gently turned and also that the level of barley in the vessel remains at a constant height and consistency throughout over the perforated floor thereof so as to ensure the consistent pressurised aereation by moisturised air thereof. The Boby germination vessel is exempt from rating.

25. After approximately 5 days germination the malting barley has completed the malting process but remains in a high moisture, sodden state. It is removed to the Boby kiln again automatically by remote control and therein dried at high temperatures to a moisture level of the stated 3 to 4%. Drying in the Boby kiln takes aproximately 40 hours. The green malt is taken from the Boby kiln after drying and screened to remove the rootlets which have been formed during the malting process which are not useful for further use and the green malt is then consigned after grading and analysis to the malt bins which are numbered 1 to 13 on drawing 1924-4. The malt thus transferred to the malt bins is matured over a period of three weeks so as to allow the stabilisation of enzymes and to allow moisture to equilibrate.

26. The function and sequential process involving the malting barley and its conversion to green malt in the Redler plant is exactly the same as that of the Boby plant and the Redler plant consists of a series of aerated steeps and pneumatic germinating boxes.

27. While at time of hearing of the appeal the malting barley which had germinated after the appropriate period of 5 days or so in the Redler germinating boxes was transferred to a Seager kiln for drying in 1988 the germinated barley or green malt was kiln dried in the germinating boxes using another one of the triple functions of the Redler germinating boxes.

28. The construction of the Redler structure which fulfils the triple function of germinating vessel grain dryer and kiln is of rectangular mass concrete construction. It is part of a longer rectangular complex including a furnace room, a fan room and a circulation gallery. On the far side to the fan room, furnace room and circulation gallery are the Redler plant steeps housed in the Redler steep room. The germinating cum drying cum kilning box is self contained and made of mass concrete floor, roof and walls with an asphalt roof containing throughout the walls and roof, insulating material. There are no windows whatsoever and by reason of the necessity to use the structure as a germinating box the structure is designed to maintain pressures much higher than outside pressures and airlock entry facilities are necessary to ensure human access and digress therefrom.

29. Although rectangular, the Redler germination cum grain dryer cum kiln boxes of which there are two are the same as the Boby germinating vessels insofar as there is a perforated floor with an under floor humidification chamber with germination fan and humidifying equipment and operate as grain dryers. There is a special separate set of equipment facilitating a kilning (very hot drying) mode for the Redler installation. The germination vessels or boxes are also equipped with loading and unloading, turning and water spraying machines and there are automatically adjusted dampers in the top or roof of the chamber enclosing the vessels to regulate air output and temperatures through release of air or maintenance thereof. The Redler facility also has a fan and furnace facility at the

back end to facilitate green drying but is different from the Boby germination vessel insofar as it can and did in 1988 fully facilitate kiln drying.

30. Overall, the appellant's installation is a sophisticated well designed and fully integrated plant which is highly automated and equipped with sophisticated monitoring and computer facilities which ensures through the efficient and thoughtful management thereof, the use of the malting equipment in the Boby and Redler plants for the maximum period throughout the year, and also ensures the careful and safe storage of the malting barley and malt at the various stages of production and processing thereof, to ensure that at all times, and at all stages, the product so stored, does not deteriorate, so that it can continue to meet the stringent standards required.

31. While blending and mixing is a facility available in the installation the appellants did not give evidence of a quantative nature in relation to the importance of this blending and mixing facility and the same is of an apparently ancillary nature when considering the main processes of the installation.

32. In quantative terms the operation of the installation may be summarised as follows: approximately 18,000 tons of green barley is taken in, and dried down to 11 to 12% moisture levels. The drying reduces the tonnage of the barley down to 12,000 tons approximately.

The Boby and Redler plants are operated in the malting process continuously and at one hundred per cent capacity or as close thereto as possible and the output per month of both Boby and Redler plants requires 3,000 tons of dried malting barley. The intake of green barley thus supports full scale production at the installation for four months beginning in September. Generally the stocks of malting barley taken in will be exhausted before

taking in malting barley from outlying storage and assembling centres in other towns and centres in the midlands which, by the time of the expiration of the stock of malting barley taken in in harvest in the appellant's installation, will have naturally broken dormancy in or about January. The appellant's installation continues malting the barley which has been stored in the said outlying storage and assembling facilities from in or about January to August of the new year when the harvesting process begins again. The breaking of dormancy by heat is generally not effected on the barley brought in from outside storage and assembling facilities, but, exceptionally, in the extremely bad harvest conditions of 1985 and 1986 barley from such outside or outlying facilities was given a run through the driers in the appellant's facility and transferred to the barley bins to be retained in its hot condition until dormancy broke in the same manner in which it is usually dealt with in the appellant's installation after harvest. Allowing for an average of six weeks for the breaking of dormancy after harvest the barley bins are used solely for storage and in a manner unrelated to breaking of dormancy in an artificial way for a period of four months which is almost three times the period required on average for breaking of dormancy. This four months period relates to the initial intake of green barley comprising 18,000 tons.

33. Evidence was given by Mr. Killen whose firm and qualifications appear above, in relation to the agreement of the Valuers in relation to quantum and in relation to the items in dispute as well as giving a resume of the issues.

(B)

Evidence was given by Mr. Frank Gregg, B.Comm., H.D.E., and the Tribunal found as follows:

1. Mr. Frank Gregg, B.Comm., H.D.E., is a District Valuer in the Valuation Office. He has 21 years experience in that office in the practice of valuation. Mr. Gregg inspected the appellant's facility prior to hearing with a view to ascertaining the rateability of the barley bins and the Redler three functional structure referred to as the Redler plant or

germinating vessel by Mr. Gregg, and Mr. Gregg agreed the valuation of the said barley bins and Redler plant which are the items subject matter of this appeal in dispute between the parties as follows:

	V.O. Nos.	Company Nos	Capacities	Tonnes	R.V.
Bins	25-31	14.20	7 x 600	4,200	
	53,54,55	21,22,23	3 x 1800	5,400	
	56,57	24,25	2 x 3000	6,000	
	Total			15,600	£390
	68	26	1 x 3000		75
	Total - bins				£465
	Germinating Vessel - (Redlar Plant)				185
	Total				£650

2. The barley bins contain no heat generating equipment and the heat generated in the malting barley placed in the bins is generated outside the bins in the grain drying facility prior to dispatch thereto. The bins cannot of their own accord raise the temperature of the stored barley.

3. The grain is kept in continued storage in the barley bins until it is actually required for malting which can be months further on.

4. The mass concrete structure of the tri-functional Redlar plant had many of the appearances to a layman of a building in a layman's sense.

(C)

The following are the principal submissions which were made on behalf of the parties:

On behalf of the Commissioner of Valuation, counsel on behalf of the Commissioner submitted that the barley bins were not machinery and no exemption could be claimed for them pursuant to Section 7 of the Valuation Act 1986.

Counsel for the Commissioner further submitted that the premier purpose of the barley bins was storage, that they contained nothing which of itself induced a process of change - the process of change (being the breaking of dormancy) if it was induced at all, was induced or commenced outside the barley bins with heating in the grain dryers. He further submitted that the breaking of dormancy in the barley bins was a natural process which would have occurred in the barley in any event, and which occurred earlier by reason not of anything which took place in the bins but by reason of the heating which occurred in the grain drying facilities and was thus entirely a natural process. Counsel for the Commissioner submitted that thus the barley bins fell into the definition of Plant in the 1986 Act insofar as they were designed and used primarily for storage or containment and that the purpose of such containment was only to allow a natural process to take place. The barley bins did not come into the category of the exclusion Reference No. 1 in the categories of Plant set out in the Schedule of the 1860 Act inserted by Section 8 1986 Act and described therein as "any such constructions which are designed or used primarily to induce a process of change in the substance contained or transmitted."

He submitted that the grain bins were used to prevent deterioration of grain and that the active intervention of the appellants in relation to monitoring and aereation of the grain was for the preservation and safe bulk storage thereof.

Counsel for the Commissioner argued further that the Redler vessel was not machinery within the meaning of Section 7 of the 1986 Act and that in view of the fact that the same had to an overwhelming degree, the same characteristics of what an ordinary lay person would describe as a building, the Redler vessel was a building, within the meaning of the valuation code, and,

hence, rateable as such, and argued that if the Tribunal held that the Redler vessel was not a building for rateable purposes, then it was a kiln having regard to Ref. No. 2 in the Schedule of the 1860 Act inserted by the Amendment of Section 8 of the 1986 Act, which referred to "all fixed furnaces, boilers, ovens and kilns." He further argued that if in turn the Tribunal held that the Redler vessel was not a kiln within the meaning of the 1860 Act as amended, then, and only then, could he not resist the argument of the appellant that same was plant within the definition of Ref. No. 1 of the Schedule to the 1860 Act insofar as it was a construction which was designed and used primarily to induce a process of change in the substance contained which in this case is malting barley.

Midland Malting Co. Ltd.

1. Counsel for the appellant submitted that whatever the Valuation Act of 1986 was designed to, or intended by the legislature to do, or suggested by Mr. Justice Costello in the Pfizer case dealing with the pre 1986 Act situation, the 1986 Act does not change the definition and interpretation of machinery for qualifying for rateable exemption as defined carefully by judicial decision over the years, except to include electrical power connections and he submitted strongly that the exemption from rating for non-motive power machinery was preserved in Section 7 of the said Act in 1986.
2. On the basis of a number of judicial decisions commencing with the Cement Case (1960) Irish Reports 283 extending to the Beamish & Crawford case (1980) I.L.R.M 149 and concluding with the Judgment of Gannon J. delivered on the 24th January 1990 in the Caribmolasses Co. Ltd., case, the grain bins and Redler vessel in dispute were machinery in a manufactory other than that erected or used for the production of motive power, and therefore exempt from rating.
3. If the barley bins with their ancillary apparatus and equipment were not so exempt from rating as non-motive power machinery, but were deemed to be plant within the meaning of Section 7 (2) of the said Act of 1986, then, Counsel argued, such barley bins with their

ancillary apparatus were excluded from rating, as construction affixed to the premises which were designed or used primarily to induce a process of change in the substance contained or transmitted.

(D)

On the basis of the findings of fact herein and on the basis of the submissions of the parties and on consideration of the judicial decisions and decisions of the Tribunal referred to by them, the Tribunal finds as follows:-

a) On the authority of the Judgment of Gannon J. in the Carribmolasses Co. Ltd., case, and bearing in mind the decisions of the Tribunal in the Premier Molasses case VA88/123 and Mitchelstown Creameries cases VA88/94-99, and having considered the provisions of the Valuation Act 1986 and the legislation amended thereby, the Tribunal holds that the Redler vessel and barley bins are not non-motive power machinery entitled to the rating exemption, such are exempt by Section 7 of the 1986 Act.

b) The Tribunal finds that in deciding whether the barley bins are constructions which are designed and used primarily to induce a process of change in the malting barley contained therein, it is proper to consider the barley bins with the associated grain drying facilities aereation fans, temperature monitors and controlling mechanisms and the Tribunal adopts the passage in the judgment of Gannon J. in the Carribmolasses case as follows:

> " it seems to me the description of categories of plant as designated at Ref. No. 1 in the Schedule to the 1860 Act introduced by Section 7 of the 1986 Act makes distinctive contrast between two types of containment of substance. There are two types of structure therein described. The one is primarily designed or used for storage or containment. If it is so used it is a rateable hereditament even though during the period of storage some

> natural or chemical process takes place. (No references made here to change of substances). The other is primarily designed or used " to induce a process of change in the substance contained". If it so used it is not a rateable hereditament even though the process requires containment for a determined or indeterminate period. The use of the qualifying word "primarily" indicates some degree of latitude in relation to factual circumstances of purpose. It conveys to my mind that it is not intended that the mere containment should be the only means of inducing change of substance. It seems to me that if the containment assists or is an integral part of the process of change, even though merely as an ancillary to some other catalytic agency it comes within the ambit of being used to induce a process of change."

Using the terminology of the Judgment of Gannon J. just quoted in an non technical way, the Tribunal finds that the "catalytic agency" involved in the inducing of change in the malting barley to effect accelerated breaking of dormancy is the heating of the malting barley through the process of grain drying.

c) The Tribunal is mindful that the Tribunal has already, in other cases, and, especially in the Mitchelstown Creameries case involving the malting barley storage and handling facilities at Limerick Road held that integrated handling and storage facilities such as are contained in the appellant's installation were designed or used to induce a process of change in the substance contained which in the Mitchelstown case was malting barley. The Judgment of the Tribunal and the subsequent case stated submitted by the Tribunal in respect of the Mitchelstown case indicates that the Mitchelstown facilities at Limerick Road could be generally described as "cool" handling facilities as opposed to "warm or heated" handling facilities for the purpose of inducing a process of change in the malting barley. Having regard to the fact that the cool system of the Mitchelstown Limerick

Road facilities generally did not interfere with the natural breaking of dormancy, the Tribunal is of the view that the process of change which was induced in the Mitchelstown case in relation to the Limerick Road handling facilities was minimal, when compared with the process of change which is induced in relation to the premature, or, accelerated, breaking of dormancy in the appellant's installation. The Tribunal therefore, considers that it is not automatically bound by the Mitchelstown decision on the basis that it is on all fours with the present appeal. The Tribunal has considered the extent to which the process of change induced in the appellants' malting barley in the barley bins governs the design or use of the barley bins. While the Tribunal accepts that the premature or accelerated breaking of dormancy in the barley is a significant process of change it nevertheless cannot be said to be the primary reason for use or design of the barley bins in the appellant's installation. In other words the barley bins are found by the Tribunal not to be designed or used primarily to induce a process of change in the barley contained therein for the following reasons:

(i) the green barley at harvest must be dried to be stored, and must be heated up to at least 30 degrees celsius to be dried, thus the initial inducement to change namely, the heat, is merely an incidental of the drying process which is itself a fundamental part and absolutely necessary starting point of the storage process, for green barley coming off the combine in all Irish harvest conditions, and, which can only be justified in relation to the expense of energy operation maintenance and capitalisation thereof in relation to drying of grain for storage.

(ii) The continuation of inducement to change in the malting barley in relation to breaking of dormancy relates only to the passive use of acquired heat or energy in the barley subject to careful monitoring and occasional turning and cooling and not to the addition of any more active process or substance in the grain bins, and

the postponement merely of the usual grain cooling following grain drying for the purpose of allowing the heat to remain in the bulk stored barley.

(iii) While the process of heating through grain-drying-type facilities, and storage of the barley in the bins for the purpose of breaking dormancy, was used without reference to grain drying to reduce moisture in 1985 and 1986, the Tribunal finds that these were isolated occurrences relating to exceptionally bad wet cold harvest and in any event the Tribunal does not give much weight even to these exceptional incidences in the absence of quantities in tonnage being shown to have been so treated.

(iv) In terms of the relative quantity flows of the appellant's installation, the time spent by barley in the barley bins in the batch of green barley delivered to the appellant's installation exceeds by almost three times the period of six weeks average time taken to induce breaking of dormancy. This proportion cannot be totally accurate as there may be some overlapping between barley being used form the barley bins for malting and barley being taken into storage after drying early in the harvest. However, no matter what discount is made for such overlapping on the quantative side the mathematics overwhelmingly favour storage rather than inducing a process of change.

(v) The compressed nature of the Irish harvest the four months malting supply for the appellant's installation must be stored somewhere in safety and without the storage in the appellants' installation the malting barley might well go to waste or may be consigned to feeding status.

(vi) Overall, breaking of dormancy can be considered a good by-product of storage.

THE REDLER VESSEL

1. In relation to the question as to whether the Redler vessel is or is not a building within the meaning of the valuation legislation the Tribunal is of the opinion, having regard to the many judicial decisions cited, and the criteria laid down therein in relation to buildings, that while the Redler vessel viewed from the outside has many of the appearances of what a lay person would call a building, it is nevertheless, not a building, especially, having regard to the fact that it performs the same high specification function as the Boby germinating vessel, and is designed to carry out such functions only on the basis that the same controlled environment and pressurised conditions can be obtained therein. The Redler vessel has been designed, from the outside mass concrete insulated roof and walls, to the inside installations and machinery, to be an integrated unit, and cannot without doing violence to the comparison thereof with the Boby germinating vessel be regarded as a building for the purposes of the rating legislation.

2. On the basis that the Redler vessel is not non-motive machinery within the meaning of the Valuation legislation the question remains as to whether it is a kiln within the meaning of categories of Plant under Ref. No. 2 in the Schedule of the 1860 Act as inserted by the 1986 Act, Section 8.

3. While the Tribunal has considered carefully the submissions of the appellant's counsel relating to the fact that in 1988 the Redler vessel was used only for a small proportion of the time as a kiln dryer and finds that the use of the Redler vessel as a mere grain drying facility for harvest use is not thereby being used as a kiln (notwithstanding any dictionary definitions to the contrary), the Tribunal finds that having regard to the clear requirements of Ref. No. 2 of the Schedule heretofore referred to, the Redler vessel was a kiln in 1988. In so deciding the Tribunal makes no decision as to whether on cessation of

use of the Redler vessel as a kiln after 1988 the redler vessel remains a kiln for the purpose of Category 2. In reaching this decision the Tribunal has considered the judgment of Mr. Henchy J. in Carrol - v - Mayo County Council 1967 I.R. and the decision of the Tribunal in the C.I.E. Rosslare case VA88/118 and VA/89/148, and finds that these decision are not applicable as they relate primarily to occupation issues. The Tribunal has had regard in reaching the decision that the Redlar plant in 1988 was a kiln taking into consideration that in Category 1 of the same Schedule the Act of 1860 as amended by the 1986 Act the concept of primary design or use is used to determine rateability, while in Ref. No. 2 such test of primary design or use as a kiln is not used. The expression of the criterion in the case of storage constructions and the exclusions thereof in the case of kilns, has assisted the Tribunal to come to the conclusion that the legislature decided that any use as a kiln in the case of the Redler vessel means that the Redler vessel is a kiln.

Accordingly, the Tribunal finds that the bulk barley bins appellant's numbers 14 to 26 inclusive and the Redler vessel be valued as agreed between the parties and rated at the sum of £650. The Tribunal finds that the valuation the subject of the Notice of Appeal at the subject premises be affirmed at £1,402.50.