MODULARIO
Ambiente - **58**

Mod. **58**

Roma, 16 LUG. 1997 *19*

Ministero dell'Ambiente

SERVIZIO PER LA TUTELA DELLE ACQUE,
LA DISCIPLINA DEI RIFIUTI, IL RISANAMENTO DEL SUOLO
E LA PREVENZIONE DELL'INQUINAMENTO DI NATURA FISICA

N. 16612/ARS/DI/SA
Risposta al Foglio del
N.

All'ITALRAP
5-11 Rue du Marteau
B-1040 BRUXELLES

Alla Commissione dell'Unione
Europea DGXI
Rue de la Loi 200
1049 BRUXELLES

e.p.c. Ministero degli Affari Esteri
DGAE - Ufficio I
Piazzale della Farnesina 1
00194 ROMA

Alla Presidenza del Consiglio dei
Ministri
Dipartimento per il coordinamento
delle politiche dell'Unione Europea
Via Giardini Theodoli, 66
00189 ROMA

All'Ufficio Legislativo
SEDE

DG XI 04/08/97 **13777** A
[redacted]
ATTR: **B.3** / [redacted]
INFO: D.1

ARCH ☐ | CCPN ☐ | → S ☐ | → P. ☐

91/676

Oggetto: procedura di infrazione 96/22/32 ex art. 169 Trattato CE - protezione delle acque dall'inquinamento provocato dai nitrati provenienti da fonti agricole - fonti di risposta.

In riferimento alla procedura di cui all'oggetto, si allega la documentazione trasmessa da alcune regioni circa le misure poste in essere al fine della tutela dei corpi idrici superficiali e sotterranei dall'inquinamento proveniente da attività agricole-zootecniche.

Si fa presente che sono già state sollecitate le amministrazioni regionali che non hanno ancora provveduto a fornire le informazioni richieste.

IL DIRETTORE GENERALE
(Dott. Gianfranco Mascazzini)
[redacted]

From: Marche Region
Giunta Regionale [Regional Council]
Agriculture Service
Ancona

To: Environment Ministry
Water Protection Service
Division I

Our ref: 4430

Date: 2 July 1997

Re: Infringement procedure 96/2232 pursuant to Art. 169 of the Treaty establishing the European Community - protection of the aquatic environment from nitrate pollution from agricultural sources

We would reply as follows to your letter ref. 13038/ARS/R dated 17 June 1997.

By Council Decision No 4595/94, the Marche Region identified the local administrative authority areas that included sites with water nitrate levels exceeding the relevant limit in 1994.

The Multiannual Zonal Programme which implements EEC Regulation 2078/92 includes specific funding for these areas in Measure D3 - Protection of Water Resources.

This funding, which is subject to a minimum area of 1000 hectares and to full observance by the local farmers of a system of low environmental or biological impact farming, has been granted to two local administrative authorities for a consolidated land area of approximately 3000 hectares.

A survey of sensitive areas is also in hand, so that applications from other local administrative areas in the same situation can be more appropriately channelled.

Yours faithfully

Head of Service

[redacted]

[signature]

From: Autonomous Province of Bolzano - Alto-Adige
Department 29
Provincial Agency for Environmental Protection and Industrial Safety
Office for the Protection of the Aquatic Environment
Bolzano

To: Ministry of the Environment
Water, Waste and Soil Service
Rome

Date: 1 July 1997

Our ref.: 29.4. 62.01.09./3264

Re: Infringement procedure 96/2232 pursuant to Art. 169 of the EEC Treaty - protection of the aquatic environment from nitrate pollution from agricultural sources - request for information

The measures adopted to protect bodies of surface water and groundwater from pollution due to agricultural and livestock-raising activities are set out below.

For surface water monitoring, a list of points in the national network (Class I) has been agreed and samples are taken at two-month intervals. Sampling is less regular in the case of Class II locations. Not only chemicophysical but also biological quality (IBA[2]) is determined. Groundwater is monitored by sampling at six-month intervals.

Measures to avoid environmental pollution were laid down by Decision No 1724 of the Bolzano Provincial Council dated 5 April 1993 on requirements for the storage and spreading of farm manure.

Every local administrative area was given a time limit to make a survey of the manure storage tanks and other manure storage facilities on holdings with more than two Livestock Units. Adaptation programmes for the manure storage tanks and other manure storage facilities were

[2] [Translator's note: Abbreviation not found.]

drawn up on the basis of the local administrative area surveys. These programmes are currently being implemented (see attached Decision).

The above measures were followed by amendment of Art. 19 of Provincial Law No 63/73 concerning the storage of farm manure previously kept for at least two months in leakproof pits; this manure may be spread on fields or alternatively composted.

Yours faithfully,

Office Director

[redacted]

[signature]

Enc.: 1) Decision 1724/93

2) Amendment of implementing regulation

[Translator's note: The original of this document is in German as well as Italian.]

[...]

19. (Tanks or containers for polluting material in accordance with Art. 15 of the provincial law)

(1) Without prejudice to any other provision of state, regional and provincial laws on safety and fire prevention and any other provision governing the storage facilities for polluting and/or combustible liquids sector, the provisions set out in the following paragraphs shall be observed in order to prevent pollution of surface waters or of the subsoil.[3]

(2) Where drinking water protection zones with the relevant restrictions pursuant to Art. 2 of this Regulation have not yet been introduced, the installation of new storage facilities for polluting substances and the extension of existing ones, excluding storage facilities for liquid fuels associated with heating systems, shall be permitted only where the distance between them and sources of public drinking water supply exceeds 100 metres in the case of wells and 200 metres in the case of downstream springs.[3]

(3) Single-walled tanks made of the materials specified in the relevant codes shall be built into containing structures having the following characteristics:

a) Underground concrete containment tank:

The tank shall be designed so as to avoid cracking or distortion due to the stresses to which it may be exposed. The tank shall be impermeable to external seepage water. In addition to a shaft for filling the tank, the containing vessel shall have an inspection manhole with rungs leading down. All closures shall be so constructed as to avoid the penetration of water from outside. The tank bottom and the walls up to a minimum height corresponding to the total capacity of the tanks inside the containment shall be lined with material impermeable to the

contained substance. The bottom of the containing vessel shall have a 2% slope towards the inspection shaft.

The tanks shall be mounted, and where necessary secured, on plinths with anti-corrosion linings, so that the tanks are raised by at least 25 cm.

Where a containing vessel accommodates only one tank, the lateral spaces between the tank and the walls shall, for two adjacent walls, be at least 60 cm and on two opposite sides, at least 20 cm. Where a vessel accommodates more than one tank, a space of not less than 60 cm shall be left between individual tanks and between tanks and walls. The minimum distance between the top of the tank and the vessel roof slab shall be 70 cm. This distance may be reduced to 30 cm if the containing vessel has a tank inspection manhole above the tank manhole.

b) Indoor storage:

The access door shall have a raised threshold, so that the room concerned can act as a containing basin of volume equal to the capacity of the tanks. The floor and walls up to a minimum height corresponding to that volume shall be lined with a layer of material impermeable to the contained substance. The tanks shall be mounted on suitable plinths so that they are raised at least 50 cm above the floor. The minimum distance between the tanks and the room walls shall be 60 cm. The distance between the top of the tank and the ceiling shall be not less than 1 metre.

c) External containment basin:

Containment basins, which shall generally be made of concrete, shall be lined with a layer of material impermeable to the stored substances. Basins shall be scaled as follows:

- for one tank: not less than 100% of useful capacity;

- for two tanks: not less than 60% of useful capacity;

- for three or four tanks: not less than 50% of useful capacity;

- in any case, however, not less than 100% of the capacity of the largest tank.

Basins shall be roofed over as necessary, or alternatively rainwater shall be drained from the containment basin into a collecting tank so that it can be treated if it comes into contact with the polluting substance.[3]

(4) Double-walled tanks made of materials conforming to the relevant codes may be located underground provided that they are not located in a drinking water protection zone B or, where such zones have not yet been introduced, the distance from public drinking water catchments exceeds 100 metres in the case of wells and 200 metres in the case of downstream springs, and provided that the maximum level of the water table is always below the bottom of the underground tank. These limits shall not apply where there is a requirement to keep a filling and emptying register subject to inspection by the Technical Manufacturing Taxes Office [Ufficio tecnico delle imposte di fabbricazione]. The tanks shall have the following characteristics:

The inspection shaft over the tank manhole shall be perfectly watertight. The space between the two walls shall be tight under a test pressure of at least 0.5 bar. All connections to the tank shall be accessible from the inspection shaft. Tanks shall be fitted with suitable devices for leak detection. Devices whereby the space between the two walls is filled with polluting substances shall not be acceptable. The absence of polluting substances shall be documented and certified by the supplier of the substances. The outer wall of the tanks shall be appropriated insulated and protected from corrosion. Each tank shall bear, in a position readily visible from the inspection shaft, a manufacturer's data plate showing:

- the manufacturer's name and address;
- year of construction;

- capacity;
- tank test pressure;
- test pressure of inter-wall space.[3]

(5) In the case of single-walled tanks installed underground before 7 November 1973, when Provincial Law No 63/1973 took effect, where a thorough inspection by specialized firms shows that the tank is still leakproof, one of the following protection systems shall be applied:

a) Installation of containing structures made of suitable material, with a monitoring and alarm device for the tightness of the tank and of the structure itself;

b) An internal lining including a resin layer at least 4 mm thick, to be applied after sand-blasting of the walls.[4]

(5/bis) The measure set out in paragraph 5(b) shall be applied solely to tanks for combustible liquids of Categories A, B and C pursuant to the Ministerial Decree of 31 July 1934 provided that they are located outside "B" protection zones or zones deemed equivalent thereto in pursuance of paragraph 2, and provided that there is a requirement to keep a filling and emptying register subject to inspection by the Technical Manufacturing Taxes Office.[5]

(5/ter) Each tank that has been upgraded shall bear, in a position readily visible from the inspection shaft, a data plate with the following information:

a) name and address of the upgrading firm;
b) year of upgrading.[5]

(6) Tanks that may be subject to floating forces shall be suitably anchored.[3]

(7) Newly installed underground pipework from the tanks, as well as such pipework existing on the date when the provisions of this article come into force, shall, if made of

materials subject to corrosion, be installed in suitable protective ducts so that leaks can be avoided and any that do occur can be detected.[3]

(8) To prevent seepage into the subsoil, pollutant liquid filling and transfer areas shall undergo leakproofing treatment and be constructed in such a way that leaks cannot pollute the soil or aquatic environment.[3]

(9) All farmyard manure storage facilities shall be constructed with suitable leakproof concrete beds with a slope of not less than 2%, so that seepage can be transferred to appropriate collection vessels. The bed shall have an area of not less than 0.5 square metres for each Livestock Unit (LU) and each month of the storage. The conversion factors for calculation of the number of LU are calculated on the following basis:

-	1 horse (over two years old):	1	LU
-	1 foal (up to two years old):	0.6	LU
-	1 bovine (over two years old):	1	LU
-	1 bovine (0.5-2 years old):	0.6	LU
-	1 calf (under 6 months old):	0.3	LU
-	1 breeding pig:	0.3	LU
-	1 fattening pig:	0.15	LU
-	1 sheep:	0.10	LU
-	1 goat:	0.10	LU
-	1 rabbit:	0.005	LU
-	1 chicken:	0.004	LU[6]

(9/bis) Vessels for floating slurry manure or for livestock-raising effluent in general shall be of perfectly leakproof construction. Vessels for floating slurry manure shall have a volume of at least 0.5 cubic metres per Livestock Unit for each month of storage where farmyard manure and floating slurry manure are stored separately, and at least 1.5 cubic metres per Livestock Unit for each month of storage where floating slurry manure and farmyard manure

are combined in the same vessel. The storage facilities must be scaled to provide at least six months' storage capacity.[7]

(9/ter) Discharge to the public sewers of floating slurry manure or liquid manure from livestock raising in general is prohibited.[7]

(9/quater) Farmyard manure that has been previously kept for at least two months in a storage facility with a leakproof bed may if necessary be stored temporarily off the farm without leakproofing of the ground subject to the following conditions:

a) The farmyard manure shall be stored in compact heaps so as to minimize the contact area with rainwater and the subsoil.

b) The minimum distance between the storage facility and surface waters of any kind shall be at least ten metres and the location shall be chosen so that there is no possibility of dung water flowing into surface waters. The location shall be away from areas of natural snow meltwater run-off and the land shall not be naturally waterlogged.

c) In designated drinking water protection zones, the provisions of the decrees instituting these zones shall be observed; no manure shall be stored in protection zones A and B. Where protection zones have not yet been introduced and there are therefore no precise restrictions, temporary storage shall be permitted only where the distance from drinking-water wells exceeds 200 metres and from downstream springs 400 metres in the direction of flow. Information on the location of springs and wells may be requested from the local administrative authorities with responsibility for the site.

d) The distance from public roads shall be at least five metres; dung water may in no case run off on to any type of road.

e) The distance from dwelling houses shall be not less than 25 metres; where particular location situations give rise to objective problems in observing this distance, the mayor may in individual cases allow a shorter distance.

f) Temporary storage facilities may be established only on land used for agricultural purposes; storage in woodland is prohibited.[7]

(9/quinquies) As an alternative to storage, farmyard manure may also be composted. Composting on unprotected ground which has not been leakproofed shall be permissible provided that, in addition to the conditions set out in items a) to f) of paragraph 9/quater [translator's note: 9/quinquies in the Italian text; 9/quater in the German], the following conditions are observed:

a) The material to be composted (straw-rich farmyard manure or farmyard manure mixed with absorbent material such as bark or sawdust) shall contain not more than 65% water referred to fresh matter.

b) The heap shall be covered over.[7]

(9/sexies) The person in charge of the agricultural holding and the owner of the land parcel on which the storage facility is located or composting takes place shall be responsible for observing the provisions contained in paragraphs 9 to 9/quinquies.[7]

(10) In the event of particular technical difficulties, the Provincial Councillor [Assessore] with responsibility for environmental protection may, having consulted the Provincial Water Protection Office, grant exemptions from the provisions applicable to the containment structures provided that it is possible at any time to verify the leaktightness of the tanks and of the containment structures.[3]

(11) Firms producing double-walled tanks and the associated monitoring devices or other protection and upgrading structures and wishing to market these products in the Province of

Bolzano shall apply to the competent Provincial Councillor [Assessore] for the appropriate type approval certificate, submitting the necessary technical documentation and the result of the acceptance tests carried out and, if required, making available to the Provincial Administration samples of normal series production for such tests as the Administration deems it appropriate to have carried out. The cost shall be chargeable to the firm concerned. The Provincial Councillor [Assessore] with responsibility for environmental protection shall issue a type approval for a period not exceeding five years after consulting the Provincial Water Protection Office. The interested party shall apply for renewal of the type approval certificate upon the expiry of the five-year period. A type approval certificate shall be applied for in respect of each new model.[3]

(12) The following documents shall be attached to applications for approval or modification of a tank or storage facility for potentially polluting substances:

- a report, with accompanying drawings, on the capacity and constructional characteristics of the tank, storage facility or containment structures and, where necessary, treatment facilities;

- characteristics of the leak detection devices;

- constructional characteristics of underground pipework;

- quality characteristics of the liquids to be stored;

- an extract from the land register plans showing the location of the structures;

- statement of drinking water protection zone type pursuant to Article 2 of the Regulation or distance from any wells or springs used for drinking water supply;

- type approval certificates issued in accordance with paragraph 11.

Any person wishing to install new commercial storage facilities, excluding service stations, shall first apply to the Provincial Councillor [Assessore] responsible for environmental protection for a permit, which shall be issued subject to the opinion of the Provincial Water Protection Office. This permit shall be attached to the authorization application.

In the case of tanks and storage facilities for industrial, craft-industry, commercial and agricultural use, excluding storage facilities for combustible liquids associated with heating plants, and in the case of storage facilities for farmyard manure of livestock holdings with more than 50 Livestock Units, the applicant shall forward to the Provincial Water Protection Office a copy of the authorization as well as a copy of the certificate of the leaktightness and other tests carried out both on the tank and on the protective structures, pipework and leak detection devices, issued by the firm that carried out the work.[3]

(13) Owners of tanks and containers for polluting substances with capacities of not less than 500 litres constructed before 7 November 1973, the date of entry into force of Provincial Law No 63 of 6 September 1973, shall install the protective devices and structures mentioned in the previous paragraphs by the dates stated:

- tanks located in drinking water protection zones B or, where these zones have not yet been introduced, located less than 100 m from wells and 200 m from downstream springs: by 31 December 1988;

- tanks constructed before 31 December 1961: by 31 December 1989;

- tanks constructed between 1 January 1962 and 31 December 1964 and tanks located in drinking water protection zones C: by 31 December 1990;

- tanks constructed between 1 January 1965 and 31 December 1967: by 31 December 1991;

- tanks constructed between 1 January 1968 and 31 December 1970: by 31 December 1992;

- tanks constructed after 1 January 1971: by 31 December 1994.

- tanks with internal resin linings not conforming to the restrictions set out in paragraph 5 (b): by 31 December 1995.

The owners of livestock holdings on which the number of animals is not less than the equivalent of 50 LU shall adapt the farmyard manure storage facility to conform to the provisions of paragraph 9 above not later than 31 December 1988. Without prejudice to this provision, the mayor may, in the event of a risk of pollution, require the adaptation of farmyard manure storage facilities on livestock holdings with fewer animals than the equivalent of 50 LU, and require the adaptation of tanks, containers or storage facilities for farmyard manure within shorter time limits.[8]

(14) In the case of fuel oil tanks connected to thermal energy producing systems, which are decommissioned when the system is supplied with gas or connected to a district heating network, the mayor may grant extensions of the time limits set in paragraph 13, which, however, shall be confined to tanks located outside protection zones S and G, and provided that the local administrative authority concludes an agreement for the construction of the gas main system by 31 December 1993 or approves a plan for the district heating network by 31 December 1994.[9]

(14/bis) The extension application mentioned in paragraph 14 shall be accompanied by a certificate showing the result of the leaktightness test on the tank and associated pipework issued by a specialist firm. This test shall be carried out by examination of the tank internal walls and shall be repeated annually; the relevant certificate shall be forwarded to the local administrative authority. If this condition is not satisfied, the extension shall be deemed automatically cancelled. The requirement of leaktightness testing of the tank and associated

pipework shall not apply where the tank owner declares on his own responsibility that the system will be connected to the gas main or district heating network by 31 December 1995.[10]

(14/ter) The tanks mentioned in paragraph 14 shall be decommissioned within six months of gas supplies becoming available. For this purpose, an authorized disposal firm shall be engaged to remove residues from inside the tank, which shall be decommissioned and sealed. The mayor shall be informed when decommissioning has taken place and this information shall be accompanied by a copy of the document confirming disposal of the residues.[5]

(15) The user of the storage facility shall have the efficiency and condition of the tanks and associated underground pipework and detection and protection devices inspected at least every six years. In the case of tanks modified in accordance with the provisions of paragraph 5(b) above, this period shall be reduced to three years. The foregoing is without prejudice to the mayor's power to lay down shorter periods in the event of a pollution risk. The relevant tests shall be carried out by specialized firms or engineers. The result of the tests shall be recorded in a certificate.

In the case of tanks and storage facilities for industrial, craft-industry, commercial and agricultural use, other than storage facilities for liquid fuels connected to heating plants, the tank user shall ensure that a copy of this certificate is forwarded to the Provincial Water Protection Office.

The tank and leak detection devices shall bear a firmly affixed data plate in a readily visible position stating:

- the name and address of the firm or engineer who carried out the test;
- the year of testing.

Should it be found that the tanks or associated pipework and protection and leak detection devices are in excessively poor condition, they shall be replaced immediately.[3]

[Translator's note: All numerals in the following footnotes should be checked because the original document supplied to me is a poor copy. The abbreviation reproduced as OPGP should possibly read "DPGP", or "Decree of the President of the Provincial Council".]

[2]Art. 17 was so replaced by OPGP No 17 of 17 September 1985.

[3]Replaced by OPGP No 2 of 14 January 1987.

[4]Paragraph replaced by Art. 1 of OPGP No 37 of 29 September 1992.

[5]Paragraph added by Art. 1 of OPGP No 27 of 28 September 1992.

[6]Paragraph 9 was replaced by Art. 1 of OPGP No 92 of 11 November 1994.

[7]Paragraph added by Art. 2 of OPGP No 52 of 11 November 1994.

[8]Paragraph 13 was replaced by Art. 1 of OPGP No 46 of 16 December 1993.

[9]Paragraph 14 was replaced by Art. 1 of OPGP No 5 of 7 February 1995.

[10]Paragraph 14/bis was added by Art. 1 of OPGP No 37 of 29 September 1992 and subsequently replaced by Art. 1 of OPGP No 5 of 7 February 1995.

[Translator's note: The original of this document is in German as well as Italian.]

AUTONOMOUS PROVINCE OF BOLZANO

DECISION OF THE BOLZANO PROVINCIAL COUNCIL No 1724 OF 5 APRIL 1993

"Rules for the storage and spreading of farm manure"

Having regard to the following legal provisions:

- Provincial Law No 63 of 6 September 1973, "Rules for protection of the aquatic environment from pollution and for control of effluent discharges";

- DPGP No 3 of 29 January 1980, "Implementation Order for Provincial Law No 63 of 6 September 1973";

- Provincial Law No 61 of 6 September 1973, "Rules for protection of the soil from pollution and for control of the collection, transport and disposal of solid and semisolid waste";

- DPGP No 30 of 28 June 1977, "Implementation Order for Provincial Law No 61 of 6 September 1973";

- Provincial Law No 12 of 4 June 1973, "Measures to combat air pollution in the open and in buildings and closed rooms used for work purposes";

- DPGP No 1 of 17 January 1977, "Implementation Order for Provincial Law No 12 of 4 June 1973";

- Art. 889 of the Civil Code;

- Health Law No 1265/84;

Whereas the incorrect use of organic manure from livestock holdings often constitutes a source of environmental pollution involving mainly groundwaters and surface waters;

Whereas in particular inappropriate storage (excessively small storage pits or defective vessels) or the lack of appropriate storage facilities for farmyard manure may result in environmental damage due to the runoff of seepage liquor or the discharge of semiliquid manure or liquid manure mixed with effluent to sewers and treatment plants, or the discharge of semiliquid manure or liquid manure into surface waters;

Whereas excessive livestock numbers relative to the area of farmland used overburden the internal cycle of the holding and lead to overfertilization with consequent environmental damage;

Whereas an appropriate balance between livestock numbers, the area of farmland in use and the correct application of animal excreta does not result in environmental pollution and a healthy, balanced nutrient cycle can thereby be maintained;

Having determined that it is necessary to adopt measures to avoid environmental pollution due to inappropriate storage and spreading of animal excreta;

Taking all the foregoing into consideration and having listened to the rapporteur,

THE PROVINCIAL COUNCIL

decides

by unanimous votes cast in due legal form to issue the following rules and provisions concerning the storage and spreading of farm manure:

a) As provided by law and in accordance with local conditions and needs, every local administrative council shall, within three months of the publication hereof, issue "Rules concerning the storage and spreading of farm manure", which shall be incorporated in the hygiene and public health regulations. The technical provisions contained in Annex 1 shall have the status of a unified directive.

If the above rules are not issued within the period mentioned above, the Provincial Council shall decide on an appropriate measure to substitute for them.

b) Within 12 months of the publication of this decree, each local administrative authority shall carry out a survey of the storage pits and vessels on farms with more than two Livestock Units.

c) On the basis of the survey, general programmes for the adaptation of existing storage pits and vessels and for the construction of such pits and vessels where lacking shall be drawn up within 18 months of the publication of this decree by the local administrative authorities in collaboration with the Südtiroler Bauernbund and the Agriculture Inspectorate [Ispettorato all'Agricoltura].

d) For the implementation of the general programme, the mayor shall, according to the urgency of the situation, set a time limit by which the plans for the construction and adaptation of the storage pits and vessels shall be submitted to the local administrative authority for approval.

The time limits shall be staggered as follows from the date of approval of the general programme:

- not more than 6 months in drinking water catchment areas;

- not more than 10 months in the event of a pollution risk to surface waters;

- not more than 24 months for all other storage facilities of farms with more than 30 LU;

- not more than 36 months for all other storage facilities of farms with less than 30 LU.

e) The storage pits and vessels shall be adapted within 10 months of granting of the building permit or, as the case may be, of the award of a grant by the Agriculture Council [Assessorato all'agricoltura]. If the work is not carried out within the time limit set, the mayor shall take the action provided for in Art. 15 of Provincial Law No 63/73 by virtue of his office.

f) All persons in charge of farms having a stocking rate exceeding 2.5 LU per hectare of agricultural land in use (grassland and area of field forage crops) shall at the request of the mayor furnish evidence to the local administrative authority of the location where excess organic manure is disposed of and certify every five years by appropriate soil analyses that the cultivated land is healthy and that intensive cultivation does not pollute the subsoil and aquatic environment. Analyses revealing soil pollution shall be forwarded by the local administrative authority to the Water Protection Office [Ufficio Tutela delle Acque].

g) Grants shall be awarded only if the stocking rate per hectare does not exceed the following limits:

until 1994:	3 LU/ha
until 1995:	2.5 LU/ha
until 1996 and subsequent years:	2 LU/ha

For applications concerning semiliquid manure management in livestock housing submitted after 1 January 1993, grants shall be awarded only if the LU/ha ratio mentioned in the previous paragraph for areas suitable for semiliquid manure spreading is not exceeded.

Grants pursuant to Provincial Laws Nos 1/74 and 13/88 shall be awarded for the construction, extension and rehabilitation of liquid manure tanks and pits. Their construction shall be compulsory in the case of newly built holdings. Priority shall be given, in the award of grants, to the urgent cases mentioned in item d) and to the special programmes, and these shall be continuously accepted for funding.

Soil analyses for certification of soil condition are carried out at reduced prices by the Laimburg Agricultural Chemistry Laboratory.

h) In the event of failure to adapt the storage facilities as required, the administrative penalties provided for in Art. 21 of Provincial Law 63/73 shall apply. If the other provisions are not observed, the penalties mentioned in TU [Single Text] No 384 [translator's note: 383 in the German text] of 3 March 1984 shall apply.

i) This decision shall be published in the Official Gazette for the Region.

President of the Provincial Council

[redacted]

Secretary: [redacted]

ANNEX 1

"Storage and spreading of farm manure"

Technical provisions

a) *Storage:*

In accordance with the provisions of Provincial Law No 63 of 6 September 1973 and the associated implementation order, storage capacity sufficient for a period of at least six months shall be provided. For this purpose the following capacities are necessary, depending on altitude and milk production levels:

Farmyard manure:

Bed area: 3-5 m^2/LU*

Liquid manure:

Tank volume: 3-5 m^3/LU*

Semiliquid manure:

Tank volume 9-12 m^3/LU*

[*LU = Livestock Unit]

The tanks shall be of leakproof concrete construction, and manure pits shall be designed so that seepage liquid flows off into the liquid manure tank. Neither the manure pit nor the liquid manure tank may have an overflow.

b) *Spreading and transport:*

Farm manure shall be transported in appropriate vehicles to avoid leakage and to allow even distribution in the field. Should substantial quantities of manure nevertheless be lost, the person in charge shall ensure that roads are cleaned in order to avoid accidents.

c) *Utilization:*

Utilization of the right quantities at the right times ensures a balanced crop while saving mineral fertilizer and protecting the environment. Organic farm manure contains valuable nutrients and should constitute the basis of fertilization for a livestock holding.

d) *Quantities:*

As a rule, only the quantities of manure resulting from the holding's own forage production should be applied.

Excessively high external purchases of feedingstuffs increase the quantity of manure arising on the holding, so that the amounts produced can no longer be accommodated on the holding's forage land.

An excessive stocking rate leads to ecological and cultivation problems. The stocking rate must therefore be matched to the holding's natural forage production.

e) *Timing:*

Farmyard manure may be spread from spring until autumn.

Liquid and semiliquid manure may be spread only at the beginning of the growing season, as well as during that season in dilute form, on non-waterlogged land when there is no wind and the temperature is not particularly high.

The spreading of any type of organic manure from livestock-raising activity is prohibited on frozen, snow-covered or waterlogged land.

From: Autonomous Province of Trento
Provincial Environmental Protection Agency
Administrative and Legal Section
Trento

To: Ministry of the Environment
Rome

Attention: Dr Raimondo Santacroce

Our ref.: 1266/97-S302

Date: 30 June 1997

Re: Infringement procedure 96/2232 pursuant to Art. 169 of the Treaty establishing the European Community - protection of the aquatic environment from nitrate pollution from agricultural sources - request for information

In reply to the request contained in your letter ref. 14038/ARS/R of 17 June 1997 on the above subject, we are forwarding the following information relevant to the field of competence of the Environmental Protection Council [Assessorato alla protezione dell'ambiente]; as regards agricultural practices, please see the report to be supplied by the Provincial Agriculture Council [Assessorato provinciale all'agricoltura].

Arts. 3 and 6 of Directive 91/676/EEC: vulnerable areas and monitoring

1) Surface fresh waters:

a) Drinking water: Only a small number of watercourses at medium to high altitude are used for this purpose and their nitrate content is always substantially less than 25 mg/l.

b) Watercourses:

b_1) Monitoring of principal watercourses: 27 sections undergo monthly sampling. Nitrates have always been less than 25 mg/l from 1991 to date.

b_2) Monitoring of secondary watercourses: 127 sections are sampled at three-monthly or four-monthly intervals. Nitrate levels have always been less than 25 mg/l from 1991 to date, except for a few values in the range 25 to 50 mg/l (Torrente Dal area).

c) Lakes: Of some 300 lakes recorded in the provincial land register, two, namely Lakes Terlago and Canzolino, show eutrophication due to the high nutrient levels in their sediments. Experimental clean-up measures are proposed for them.

2) Groundwaters:

Only sources from which drinking water is abstracted are considered here, since overall environmental monitoring of groundwater has not yet been introduced.

In the last five years, only the Pederz spring in Bleggio Inferiore has shown values in excess of 50 mg/l, owing to intensive maize cultivation with high levels of fertilizer application to the soil in the area.

A denitrification programme is planned for the spring water, because the present "pollution" is thought likely to persist for some decades even in the absence of fertilizer application. This is a high-flow spring, and furthermore its water is mixed with good-quality water from other sources before being supplied to users.

Art. 5 of Directive 91/676/EEC: action

On the general level, we would point out that the Provincial Water Clean-up Plan was approved by Decision No 5460 of the Provincial Council dated 12 June 1987. Its implementation rules (Title IV) - copy attached - lay down specific control measures for

drainage and liquid manure from livestock holdings. These rules, issued also for the purposes of Art. 12 (2 bis) of Law No 7 of 24 January 1986, govern the storage, disposal and spreading of manure and provide for a number of prohibitions in the most vulnerable areas.

Yours faithfully,

OFFICER IN CHARGE

[redacted]

[stamp and signature]

Enc.

FS/ii

[From: Supplemento ordinario al Bollettino Ufficiale, 11 August 1987, No 36]

... shall be forwarded to the Environmental Protection Service.

5. Pending the connection of the local administrative area's sewers to the main sewers mentioned above, discharges from local administrative area sewers shall be governed by the provisions of Article 23 [?illegible] of the Single Text [Testo Unico] and of Art. 3 (3) of these implementation rules.

Art. 24

Civil discharges into fully leaktight pits

1. Owners of civil settlements [insediamenti civili] whose effluent is fed to septic tanks or fully leaktight pits shall ensure that the sewage is disposed of in the following forms:

a) by transfer to appropriate preliminary treatment centres at public treatment plants in pursuance of Art. 87 (5) and (6) of the Single Text;

b) by transfer to private disposal centres, if available, provided that the sewage undergoes biological treatment so that it conforms to the acceptability limits set out in Tables E and D annexed to the Single Text, in the cases and in accordance with the requirements set out therein. In this case, the disposal centre shall possess the authorization laid down in Article 23 of the Single Text, which authorization shall be issued on a time-limited basis for a period - which shall in no case exceed three years - upon the expiry of which a new authorization must be applied for. The authorization instrument shall specify the discharge points and any technical and structural requirements intended to safeguard public health and environmental hygiene.

2. The sewage mentioned above shall under no circumstances be introduced into the public sewer or spread on land.

3. The collection and transport of the sewage mentioned in item 1 above shall be subject to the authorization system laid down in Art. 6 (d) of Presidential Decree No 915 of 10 September 1982, where these operations are not carried out directly by the settlement owner using his own vehicles.

4. The provisions of Art. 18 of Presidential Decree No 915 of 10 September 1982 on transport documents shall also apply to the performance of the activities of emptying, collection and transport of sewage in accordance with this article.

5. Sewage shall always be transported in leaktight road tankers in such a way as to avoid liquid spillage, pollutant emissions, bad smells or any other hygiene- or health-related nuisance.

6. Without prejudice to the provisions of Article 87 (6) of the Single Text, for the purposes of disposal of production-settlement [insediamenti produttivi] effluent stored in fully leaktight pits, the provisions of the previous paragraphs shall be applied consistently with the provisions of Articles 16 and 18 of the Single Text and of Presidential Decree No 915 of 10 September 1982.

TITLE IV

Livestock holdings: drains and manure

Art 25

Drains

1. Drains from livestock holdings are subject to the provisions of Articles 14, 16, 17, 18 and 20 of the Single Text.

2. Without prejudice to the provisions of Article 19 above, if drains of livestock holdings pursuant to Article 14 (b) of the Single Text are to be connected to the public sewer, they shall be fitted with settling facilities to retain solid matter exceeding one centimetre in linear size.

3. Where drains pursuant to the previous paragraph exist on the date of entry into force of the Provincial Water Clean-up Plan, they shall be brought into line with the relevant provisions within one year of that date.

4. Local administrative authorities shall supervise the application and observance of the provisions of this article.

Art. 26

Provisions governing liquid manure: field of application

1. With reference to the action provided for in Article 12 (2 bis) of Law No 7 of 24 January 1986 concerning urgent measures to control eutrophication, the provisions set out in the following articles are laid down for the use of liquid manure and excreta from livestock holdings for organic fertilization of crops by spreading on land.

2. The provisions of the following articles shall also apply to settlements used for summer mountain grazing.

Art. 27

Storage of liquid manure

1. Before liquid manure from livestock holdings (hereinafter called "agricultural holdings") is used, it shall normally be collected in leaktight containers or in storage tanks that are naturally leaktight or have been rendered leaktight.

2. The total capacity of these storage tanks or containers shall be not less than that required to hold the liquid manure arising on the holding over a three-month period and, in the case of seasonal cultivation, a quantity equivalent to one quarter of average liquid manure arisings.

3. If the liquid manure storage tanks or containers are open, they shall be situated sufficiently far from buildings used for residential purposes, except for dwellings belonging to or used by staff of the holding.

4. The above requirements shall not apply to small agricultural holdings which, owing both to their size and to practical farming considerations, are able to use common traditional systems for the storage of liquid and farmyard manure (small manure pits/heaps, small containers, etc.). Even if these storage facilities are temporary, they shall be located sufficiently far from buildings used for residential purposes, except for dwellings belonging to or used by staff of the holding. Arrangements shall be made in all cases to avoid dung water seepage into the soil or aquatic environment and on to public roads.

5. Local administrative authorities shall make regulations laying down implementation rules for the provisions set out in the previous paragraphs, in order to safeguard public health and environmental hygiene.

6. In the case of settlements used for summer mountain grazing, the total capacity of the storage tanks shall be sufficient to contain liquid manure arising in the animal housing up to

the time of use for fertilization of grazing land, having regard to the requirements of environmental and landscape protection.

7. The provisions of the previous paragraph shall not apply where grazing land undergoes fertirrigation.

8. Existing settlements shall be brought into line with the provisions of this article within two years of the date of entry into force of the Provincial Water Clean-up Plan.

Art. 28

Limits to liquid manure disposal on farmland

1. The maximum quantity of liquid manure from livestock-raising activities that may be applied to land used for growing crops (whether herbaceous or forestry plants) shall be 1500 hectolitres per hectare per year, corresponding to the excreta resulting from a stocking rate equivalent to 40 quintals live weight per hectare per year.

2. Upon inspection, owners of agricultural holdings shall demonstrate that they have not exceeded the utilization limits for organic fertilizers laid down in this article, in relation both to land belonging to their own holding and, where applicable, to land of other holdings.

Art. 29

Form of spreading of liquid manure

1. Where organic fertilizers (animal excreta) from agricultural holdings in accordance with Article 27 above are spread on farmland, they shall be spread in such a way as to ensure that surface water and groundwater are not impaired or damaged.

2. Animal excreta shall not be spread on farmland currently in use for growing horticultural crops intended for human consumption in the raw state.

3. Liquid and farmyard manure may be spread on farmland the crops from which are to be used directly to feed livestock only if this manure does not contain toxic, bioaccumulable or non-biodegradable substances and provided that it is directly usable for agricultural production.

4. Appropriate liquid-handling and agricultural measures shall be taken to avoid runoff when the liquid or farmyard manure is spread.

5. Excreta shall not be spread for fertilization purposes on waterlogged land or frozen or snow-covered slopes liable to runoff.

6. The amount of liquid and farmyard manure spread shall not exceed the actual physiological requirements of the crops; for this reason, preference shall normally be given to periodic applications in accordance with plant development, soil and crop type, and the absorption capacity of the land.

Art. 30

Prohibitions

1. The use of the organic fertilizers mentioned in Article 29 above shall be prohibited:

a) Within existing residential centres and settlements, except that well rotted farmyard manure may be applied in accordance with traditional agricultural practices.

b) In a ten-metre wide protection strip alongside residential centres, settlements and dwellinghouses (this distance measured from the outer surfaces of the outermost buildings), in the case of liquid manure. This prohibition shall not apply to the spreading of well rotted farmyard manure.

c) In a ten-metre-wide protection strip alongside structures, facilities or services that are public or open to the public (such as sports installations and grounds, town parks, etc.), in the case of liquid manure. This prohibition shall not apply where well rotted farmyard manure is spread in accordance with traditional agricultural practices.

d) In the protection areas of springs, wells and water catchments used for civil purposes as defined by the town-planning requirements in force.

e) In a protection strip alongside surface bodies of water, the strip being 10 metres wide in the case of liquid manure and 5 metres wide in the case of solid farmyard manure.

f) On high-water beds and land used to contain flood water, except for fertilization by burial of well rotted farmyard manure.

g) In nature parks and areas intended for nature parks, except for the activities and uses allowed by the provincial regulations governing parks.

h) In woodland areas.

i) In quantities liable to give rise to runoff owing to the slope of the land.

2. The spreading, holding or storage for the purposes of disposal of liquid manure derived from animal excreta shall also be prohibited in the areas specified in the previous paragraph, as well as in eroded, [illegible word], geologically unstable or mine/quarry areas.

Art. 31

Supervision

1. As a part of their supervisory and inspection functions in the field of environmental pollution protection, local administrative authorities shall also monitor observance of the provisions laid down in Title IV, where necessary adopting the measures provided for in Article 27 of Regional Law No 29 of 21 October 1963 and subsequent amendments thereto, in all cases without prejudice to the application of the administrative penalties set out in Article 61 of the Single Text.

TITLE V

Coordinating and final provisions

Art. 32

Register of public water uses

1. For the purposes of implementation of Article 7 (1)(b), (2) and (3) of Law No 319 of 20 May 1976 and subsequent amendments, the Environmental Protection Service [Servizio protezione ambiente], in consultation with other competent provincial bodies, shall ensure that the register mentioned in Article 40 of the Single Text is completed and updated with current information on the direct or indirect uses of surface waters and groundwaters (uses, abstraction and drainage).

2. Within 18 months of the date of entry into force of the Provincial Water Clean-up Plan, the holders of current utilization or abstraction rights for surface waters or groundwaters shall forward the necessary data and information to the Environmental Protection Service, in accordance with a card to be provided for the purpose by the Service. The competent

provincial bodies and services shall likewise forward the information mentioned above to the Environmental Protection Service when mechanized filing systems have been installed and in all cases when so requested by the Service.

3. The provisions laid down by Presidential Decree No 381 of 22 March 1974 and by Royal Decree No 1775 of 11 December 1933 on concession and authorization procedures concerning the use of public waters shall remain in force.

4. Where new concessions are approved or new authorizations are issued concerning the use and abstraction of public waters, the competent bodies or services shall forward the relevant instrument to the Environmental Protection Service for the purposes mentioned in paragraph 1 above.

From: Autonomous Region of Valle d'Aosta
Office of Agriculture, Forestry and Natural Resources
Technical, Economic and Social Assistance and Agricultural Development Service
Quart (Aosta)

To: Ministry of the Environment
Water, Waste and Soil Service
Rome

Attention: Dr Brunelli

Date: 30 June 1997

Our ref.: 17575/SDTESD [?illegible]

Re: Reply to your request for information ref. 14038/ARS/R

In reply to your request for information with a view to avoiding the institution of infringement procedure 96/2232 under Art. 169 of the Treaty establishing the European Community (protection of the aquatic environment from nitrate pollution from agricultural sources), we enclose a copy of Regional Regulation No 6 of 9 August 1995, "Technical rules for the storage, treatment, rotting and reuse of livestock-raising residues", issued urgently to satisfy the need for technical rules to protect surface waters and groundwaters from pollution due to livestock-raising activities.

The Regional Regulation was drawn up in accordance with the requirements of the Nitrate Control Directive of the River Po Basin Authority, was approved at the time by the Technical Committee and is awaiting approval by the Institutional Committee.

Yours faithfully,

Councillor [Assessore]

[signature and stamp]

[Translator's note: The attached regulation in Italian and French is marked "not to be translated".]

From: Molise Region
Environment Office
Campobasso

To: Environment Ministry
Water Protection Service
Rome

Date: 30 June 1997

Ref.: 2357

Re: Infringement procedure 96/2232 pursuant to Art. 169 of the Treaty establishing the European Community - protection of the aquatic environment from nitrate pollution from agricultural sources

In reply to your fax of 17 June 1997 on the above subject, we wish to inform you that the Molise Region, by the Regional Council's Decision No 1104 of 24 May 1993 (copy attached) has issued a regional directive concerning the spreading of liquid manure and excreta from livestock-raising activity on farmland and concerning the issue of the authorizations laid down for the establishment of new livestock holdings.

The aim of this directive, which was issued precisely with a view to the protection of aquifers and bodies of surface water and groundwater from possible pollution due to livestock-raising activities, was to lay down, pending the Regional Fertilization Plan, uniform criteria for the spreading of animal excreta on land, at the same time specifying the prohibitions on such spreading in accordance with the condition and quality of the land and the classification of the relevant settlement and imposing a maximum limit on the amount of manure that may be spread per unit area.

At the same time, ongoing monthly monitoring by the Molise PMIP [Multi-Area Hygiene and Prevention Unit] of all surface watercourses in the Region was instituted; a summary of the relevant data for 1996 is attached for information.

This information clearly shows, in particular, that nitrate and nitrite levels in the samples analysed are never high enough to give rise to concern, and that nitrogen and phosphorus concentrations are also low.

It is clear from the foregoing that the territory of this region does not include areas qualifiable as "vulnerable".

We trust that the above information will be useful to you and shall be happy to cooperate further in any way you may require.

SECTION HEAD

[signature]

COPY

REGIONAL COUNCIL

Session of 3 October 1996 Decision No 3570/C

On 3 October 1996 at the offices of the Abruzzo Region, the Regional Council met under the chairmanship of [redacted] the meeting being attended by the following members:

[redacted]

SUBJECT

Provisional technical instructions for the disposal of oil-mill vegetation effluent [acque di vegetazione] - Decree Law No 443 of 8 August 1996.

THE REGIONAL COUNCIL

HAVING REGARD to Law No 319 of 10 May 1976 and subsequent amendments and additions, laying down rules for protecting the aquatic environment from pollution;

HAVING REGARD to Annex 5 of the decision adopted on 4 February 1977 by the Ministerial Committee for protection of the aquatic environment from pollution;

WHEREAS the treatment of oil-mill vegetation effluent poses substantial difficulties due both to the nature of certain substances contained therein and to the very short period during which the mills in our Region are operational;

HAVING REGARD to Law No 119 of 24 March 1987 containing "Urgent provisions concerning oil-mill discharges";

WHEREAS, as provided by Art. 2 (2) of Law 119/87, discharges of olive-milling installations classified as production settlements [insediamenti produttivi] and with delivery[3] on the land, these installations being authorized in pursuance of Law 119/87, shall in all cases be brought into line with the limits set out in Table A annexed to Law 319/76 within two years of the date [of entry] into force of the abovementioned law;

HAVING REGARD to Decree Law No 443 of 8 August 1996, "Extension of time limits laid down by provisions concerning environmental and territorial public works, as well as urgent provisions for building rehabilitation in towns", Art. 4 - "Environmental action", paragraphs 2 and 3, which extended until 30 June 1997 the time limit mentioned in Art. 2 (2) of Law 119/87, as last extended by Art. 19 of Law No 158 of 20 May 1991;

WHEREAS the extension mentioned above allows the disposal of vegetation effluent on farmland;

WHEREAS it is necessary to lay down relevant provisional technical rules for the 1996-97 oil-milling season so as to provide a uniform reference framework for all economic entities in the sector and in order to protect the environment;

HAVING REGARD to Annex A, "Disposal methods", which forms an integral part of this Decision;

NOTING our own Decision No 4806 of 23 August 1988 on "Disposal of effluents from oil mills - collection and storage in containers or tanks - applicable provisions", which is legally enforceable, with the issue of accompanying instructions for the application of Art. 6 (C) and

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[3] [Translator's note: Literal translation of "recapito": this may mean that the address or domicile of these holdings is on farmland. The somewhat obscure wording is presumably taken from the relevant Italian legislation.]

(D) of Presidential Decree 915/82 to oil-mill vegetation effluent disposal operations and in particular transport operations on behalf of third parties and storage in tanks or other containers;

NOTING further that storage and treatment in dedicated installations or in municipal treatment plants is subject to authorization as provided for in Presidential Decree 915/82 because it involves the disposal of special waste for third parties;

WHEREAS, where the disposal methods set out in Annex A are applied correctly, no ecological or hygiene- or health-related nuisances have ever been observed;

CONSIDERING the need to subordinate the validity of this measure to the applicability of Art. 4 (2) and (3) of the said Decree Law No 443 of 8 August 1996 and its repetition or conversion into law;

IN VIEW, further, of the need to adapt this technical directive to any national rules or requirements that may be more restrictive or different, in consequence of which those required to observe this directive may need to adapt to possible more restrictive State rules;

NOTING the desirability of drawing attention to the urgency of the requirements mentioned above having regard to the forthcoming oil-milling season;

SINCE the Head of the Ecology and Water Protection Service has expressed a favourable opinion on the conformity of this Decision with administrative requirements and on its legitimacy;

BY UNANIMOUS VOTE cast in due legal form

DECIDES

to propose to the Regional Executive [Consiglio Regionale]:

1) that it AUTHORIZE the technical instructions contained in Annex A, which form an integral part of the present Decision;

2) that it STIPULATE that the said technical instructions are applicable to the 1996-97 oil-milling season and hence apply until 30 June 1997, as provided by Art. 4 (2) and (3) of Decree Law 443 of 8 August 1996;

3) that it in addition DRAW ATTENTION to the fact that storage and treatment in dedicated installations or in municipal treatment plants is subject to authorization pursuant to Presidential Decree 915/82, because it involves the treatment of special waste for third parties;

4) that it SUBORDINATE the validity of this measure to the applicability of Art. 4 (2) and (3) of the said Decree Law No 443 of 8 August 1996 and its repetition or conversion into a law;

5) that it ADAPT the present technical instructions to any national rules or requirements that may be more restrictive or different, making it compulsory for those required to observe the present instructions to adapt to any more restrictive rules laid down by the State;

6) [sic] that it CALL UPON the Regional Council to adopt the present Decision with due urgent priority in view of the forthcoming oil-milling season;

7) that it STIPULATE that the present instrument be published in the Official Gazette for the Abruzzo Region.

[Rubber stamp]

Document consisting of two pages ANNEXED as an integral part to Decision No. 3570/C of 3 October 1996

COUNCIL SECRETARY

[redacted]

[signature]

ANNEX A

DISPOSAL METHODS

The vegetation effluent [acque di vegetazione] from oil mills may be disposed of by the following systems:

a) Disposal on farmland.

b) Disposal in dedicated installations.

c) Treatment in municipal treatment plants; vegetation effluent shall not be discharged direct to the public sewer.

The disposal system used shall in all cases conform to the following provisional requirements:

a) Disposal on farmland

The effluent may be disposed of on farmland subject to the following conditions:

- The ratio of vegetation effluent to farmland usable for disposal shall not exceed 20 m^3/ha per year for pressing residues and 40 m^3/ha for centrifugation residues.

- A safety distance of not less than 100 m from habitations, lakes and reservoirs, water catchment structures and springs shall be observed.

- The water table shall be at least 2 m below ground level.

- The waste material shall be disposed of in technically correct form, distributed uniformly and in such a way as to avoid runoff.

- The material shall not be spread on standing herbaceous crops; it may be spread on land to be used for break crops (maize, sorghum, sunflowers, etc.) or under the crowns of trees on tree-planted land - preferably olive groves.

b) Disposal in dedicated installations

In this system the vegetation effluent is treated in suitable installations conforming to legal requirements and subject to express, specific authorization for the storage and treatment phases as provided in Presidential Decree 915/82.

The purified effluent from treatment plants may be discharged into surface bodies of water, public sewers or to the soil and the effluent shall conform to the tabulated limits set out in Law No 319/76 and subsequent amendments thereof and additions thereto.

c) Treatment in municipal sewage treatment plants

Vegetation effluent may be treated in municipal sewage treatment plants provided that the treatment plant concerned possesses or provides itself with storage tanks for oil-milling effluent, from which the effluent is fed in metered doses to the treatment facilities; however, the residues shall be collected and transported (at the mill owner's expense) by suitable

systems and vehicles conforming to the requirements set out in Presidential Decree 915/82; regional authorization for transport may be dispensed with, because the material comprises non-third-party special waste.

The material shall in all cases be disposed of with extreme caution, the flow being varied in accordance with the characteristics of the sewer and of the treatment plant, as specified by the plant operator.

For the effluent storage and treatment phases, the treatment plant shall be subject to authorization as provided in the Presidential Decree 915/82.

Oil-mill residues may not be discharged direct to the public sewer.

[partly illegible rubber stamp];
Pescara, 17 September 1996
OFFICIAL IN CHARGE

[signature]

AUTONOMOUS REGION OF FRIULI-VENEZIA GIULIA

REGIONAL ENVIRONMENT DIRECTORATE
VIA GIULIA, 75/1
34126 TRIESTE
FAX: 040 - 3774410

Date: Trieste, 1 July 1997

From: Regional Environment Directorate - [redacted]

To: Dr Brunelli

Addressee's fax No: 06 - 77257012

This fax comprises 9 pages including the cover sheet.

Message: URGENT

IF THIS DOCUMENT IS RECEIVED INCOMPLETE OR ANY PART OF IT IS ILLEGIBLE, PLEASE CALL 377 4061 FOR RETRANSMISSION

From: Autonomous Region of Friuli - Venezia Giulia
Regional Environment Directorate
Trieste

To: Ministry of the Environment
Water, Waste and Soil Service
Rome

Attention: Dr Raimondo Santacroce

Date: 1 July 1997

Ref.: AMB/14121 - E/28/319

2 enclosures

Re: Infringement procedure 96/2232 pursuant to Art. 169 of the Treaty establishing the European Community - protection of the aquatic environment from nitrate pollution from agricultural sources - request for information

The following information is provided in reply to your request ref. 14038/ARS/R of 17 June 1997 on the above subject.

One of the responsibilities of the Regional Administration since 1974 has been systematic quality monitoring of bodies of surface water and groundwater in the Region. By virtue of the surveys carried out with the collaboration of the Farm Multi-Area Prevention Units for the Health Services competent for the relevant areas, it has been possible to gather a considerable body of data on water quality (about 1 000 000 items of information), which has been coded, checked and transferred to a magnetic storage medium in this Directorate's Territorial Database.

This data is an essential aid that allows an immediate response to problems of protecting the aquatic environment from pollution and has constituted the basis for compilation of the General Water Clean-up Plan approved by DPGR [Decree of the President of the Regional Council] No 0384/Pres. of 23 August 1982 and its amendment, which is currently in hand.

The analytical data from the regional monitoring networks shows that no watercourses have high nitrate levels, whereas nitrate levels in the groundwater in some locations have tended to increase constantly between 1980 and 1996, although almost always remaining within the limits set for drinking water by Presidential Decree 236/88. It is worth pointing out that the groundwater monitoring network currently provides for constant quality control of 97 wells, including 10 in Pordenone Province, seven in Gorizia Province and 79 in the territory of [translator: one or more lines missing at bottom of page].

With regard to the guidelines laid down in the General Water Clean-up Plan mentioned above, the Regional Administration has undertaken a number of initiatives to provide the area with sewerage systems and sewage and effluent treatment plants. In general, action to clean up and safeguard the aquatic environment has been taken in individual cases with a view to containing and gradually reducing discharges from civil settlements [insediamenti civili], production settlements [insediamenti produttivi] and livestock-raising establishments so that the effluent concerned is fed into public sewers. For this reason, the increase in nitrate levels observed in the groundwater in certain parts of the region is deemed most likely to be due to the agricultural use of nitrogenous fertilizers.

The principal factors that affect to varying degrees the process of penetration of nitrates into groundwater are soil type, agricultural practices and local climatic and environmental conditions. Soil type is an important determinant of nitrate pollution processes in groundwater. Sandy and gravelly soils favour on the one hand the nitrification of nitrogen compounds because these soils are generally well aerated, and on the other hand vertical transport of nitrates, due to the permeability of these soils. Conversely, clay soils provide less favourable conditions for nitrate formation, while vertical transport of nitrogen compounds here is limited by the relative impermeability of these soils.

The lithology of our region is characterized by the division of the Friulian Plain into a northern or high part made up of coarse materials and a southern or low part with sands and clays. Owing to the difference between the two deposits, the two parts have contrasting underground hydrologies. Generally speaking, the Friulian High Plain has a single water-

bearing stratum that varies in depth but is permanent, whereas the groundwater of the Low Plain no longer exists because the surface strata are not permeable. The Friulian High and Low Plains are separated by the so-called "line of springs", along which considerable flows of groundwater emerge in a number of locations. This is due to the impermeability of the clayey or clayey-sandy soils of the Low Plain, which block the circulation of water and force it to rise to the surface. In the High Plain, by contrast, owing to the very high permeability of the soil, considerable water is lost from the underground watercourses that supply the underlying aquifers.

Agricultural practices may have a variety of effects on the nitrification of groundwater. Fertilizer application in excess of crop needs, irrigation not matched to the absorption capacity and depth of the plant roots, and deep ploughing that alters the organic matrix of the soil speed up its mineralization and increase nitrification, thereby encouraging nitrate pollution of the groundwater. Climatic and environmental conditions may affect in particular the processes of nitrification, denitrification and transport.

Nitrogenous fertilizer consumption in our region does not always parallel that in Italy as a whole: the maximum values recorded in Friuli-Venezia Giulia were concentrated at the beginning of the 1980s, earlier than for the country as a whole. Whereas the figure for the whole of Italy peaked in 1987, in the same year the value in Friuli-Venezia Giulia was distinctly low. However, the lowest value was recorded in our region, as elsewhere, in 1990, since when the figure has begun to increase again.

Average fertilizer consumption in Friuli-Venezia Giulia in the period 1980-1994 exceeded 100 kg/ha/year, so that it is one of the Italian regions that has used nitrogenous fertilizers on a massive scale over a period of time.

Nitrate level analyses in groundwater have revealed a continuous strip of wells with high values to the north of the "line of springs", between the local administrative areas of Talmassons and Campolongo al Torre. This may be due to two factors: firstly, this is a high-impact area (maize cultivation) of high hydrological vulnerability, and, secondly, the lowest

nitrate concentrations are measured in the wells closest to the Tagliamento. This is most probably due to dilution by the waters of the Tagliamento. The boundary between the areas watered by the Tagliamento and the Torre, corresponding to the Cormor stream, separates the eastern (high-value) group from the western (low-value) group.

The highest values are attained in the Gonars area (50 mg/l). Further east, owing probably to mixing with less nitrate-rich water, the pollution level does not increase further.

The less polluted aquifers are found along the strip parallel to the course of the River Tagliamento and below the "line of springs", between the Tagliamento itself and the local administrative area of S. Giorgio di Nogaro. In the first area nitrate levels do not exceed 10 mg/l, whereas in the second nitrates are present at minimal trace levels only, owing to the reducing effect of the soil in contact with the groundwater.

The groundwater north of Udine has distinctly high levels, although not exceeding 20 mg/l. Low nitrate levels are observed in the aquifers fed by water lost from the Natisone, downstream of the hills of the local administrative area of Buttrio and as far as the course of the River Isonzo, and by water lost from the Isonzo itself, both on its right bank between the local administrative areas of Gorizia and Villesse and on the left bank between the "line of springs" and the Carso.

Aquifers with fairly high nitrate levels are found in the basin of the Malina and Grivò streams, as well as behind the Collio goriziano. Nitrate concentrations are in general constantly increasing, by about 1 mg/l/year for waters with NO_3 contents exceeding 10 mg/l. This trend ceased in some wells from 1992, and even reversed in others.

The increase in nitrate levels from 10 to 20 mg/l in a 200-metre-deep monitoring well in the local administrative area of Terviscosa shows unequivocally that any deterioration in water quality upstream of the springs is eventually also reflected in the upwelling groundwater of the Low Plain.

In the area around Pordenone, the quality characteristics of many aquifers depend greatly on their depth below ground level. In general, shallow aquifers have water with higher levels of dissolved salts and are more likely to contain toxic organic and inorganic substances, whereas the chemical indicators show that the water of the deeper aquifers (usually artesian) is of good quality.

Groundwater constitutes the type of water resource at greatest risk; the analytical results show that the highest nitrate concentrations here are to be found in the shallowest wells. Compared with similar studies of the same wells carried out in 1992, an appreciable increase in nitrate levels (exceeding 10%) is observed in over half the wells (50.9%); this bears out the assumption that this compound is gradually accumulating in the groundwater. In particular, further studies by the Pordenone Multi-Area Prevention Unit in another monitoring network adjoining that of the Regional Environment Directorate's three wells, in the local administrative areas of Polcenigo, Porci and Pasiano, show values just over 50 mg/l, which thus exceed the legal limit.

The measures implemented to tackle the problem of nitrates in the groundwater may be summarized as follows:

- Retention of the existing regional monitoring networks with the addition of further data from measurements carried out by other bodies, such as the Multi-Area Prevention Units, provinces and local administrative authorities, so that the trend can be kept under constant observation.

- Expansion of sewerage systems and of the capacity of treatment plants for effluent from civil and in particular production and livestock-raising settlements, with a view to extending their catchment areas to handle discharges not yet collected by public sewers.

- Issue of authorizations for and monitoring of correct agricultural use of sewage sludge in accordance with the provisions of Legislative Decree 99/92, so as to reduce chemical fertilizer usage.

- The recent adoption, by Decision No 657 of 7 March 1997 of the Friuli-Venezia Giulia Regional Council, of the final text of the Multiannual Regional Agroenvironmental Programme that implements Regulation 2078/92/EEC and Regulation 746/96/EC, with a view to limiting the polluting effects of agricultural practices, including the following and other measures:

  - appreciable reduction in the use of fertilizers and/or plant protection products so as to limit the polluting effects of agricultural practices and to avoid the accumulation of harmful substances in soil, water and produce, thus protecting plants and facilitating their growth without harming human health and the environment;

  - introduction or retention of organic production methods to protect the environment and conserve natural areas;

  - reduction of cattle and sheep stocking rates per unit forage area, to promote an appropriate ratio of animal stocking to farm forage area by extensification of cattle and sheep farming;

  - use of other production methods compatible with the requirements of protection of the environment and of natural resources and with maintenance of the countryside and landscape;

  - set-aside of arable land for environmental reasons, to protect karstic and other springs;

- promotion of training courses and seminars on farm production methods compatible with the requirement of protecting the environment and natural resources.

In addition to the action mentioned above, other measures have been undertaken by the Friuli-Venezia Giulia Regional Centre for the Promotion and Development of Agriculture (ERSA) to reduce nitrate pollution of the aquatic environment due to agricultural practices.

These comprise in particular the following research programmes:

* **Ammonium thiosulphate (ATS) as an environmentally friendly tool for reducing N inputs** (a study of the behaviour of the ATS as a nitrification and ureasis inhibitor and as a vehicle for S in plant material, soil and water in 20 tests divided among six European Union countries).

* **Improvement of nitrogen and energy utilization on a dairy farm** (studies have been carried out in six European Union countries on the effect of bovine liquid manure fertilization on maize and grazing production, on the behaviour of soil nitrogen, and on nitrogen leaching into groundwater).

* **Cover intercrops in maize and soya bean crops** (studies of winter cover to reduce leaching - in particular, of nitrates - into the soil).

* **Cover crops in tree cultivation** (testing nitrate retention capacity of grass planted between vines and fruit trees).

* **Area system for the Friuli-Venezia Giulia Region to assess the pollution risk from agricultural practices** (the aim of this project, currently being considered for approval, is to develop an area information system for rapid monitoring of the

geographical distribution of agrosystems and the potential impact of production techniques on the environment).

We trust that this information will enable you to respond to the European Commission's request.

Yours faithfully,

REGIONAL DIRECTOR

[redacted]

[initials]

FT/*

[Translator: please see map in original.]

[Translator: please see map in original.]

AUTONOMOUS REGION OF FRIULI VENEZIA GIULIA
REGIONAL DIRECTORATE OF PUBLIC WORKS

Water Resources Service
[Servizio dell'Idraulica]

PLATE 1

HYDROGEOLOGICAL DIAGRAM OF THE FRIULI-VENEZIA GIULIA REGION

Lombardy Region

FAX

AGRICULTURE DIRECTORATE

OFFICE OF THE DIRECTOR-GENERAL

Milan

Telephone: 02-67652684-2666 Fax 02-67652796-2736

To: Ministry of the Environment
Water, Waste and Soil Service

From: [redacted]

Date: 26 June 1997

[...] 6-77257012

3 pages including cover sheet

In the event of poor reception, please call Mrs Marelli, Tel. 02-6765-2666

From: Lombardy Region
Regional Council
Directorate General of Agriculture
The Director-General

To: Ministry of the Environment
Water, Waste and Soil Service
Rome

Ref.: P9900/SC0306/eg

Re: Report on measures taken by the Lombardy Region to protect surface and groundwater from pollution due to agricultural and livestock-raising activity - your ref.: 14038/ARS/R of 17 June 1997

Even before the issue of Directive 91/676/EEC, all holdings in the Lombardy Region that spread livestock manure in accordance with Law No 319 of 10 June 1976 (the Merli Law) were required to obtain authorization for spreading to ensure observance of the requirements laid down in the hygiene regulations applicable to the relevant local administrative area.

Authorizations were granted subject to verification by the USLs [Local Health Units] of the stocking rate per hectare of farmland and the availability of appropriate residue storage containers.

The Lombardy Region passed Regional Law 37/93, "Rules for the treatment, rotting and use of livestock-raising residues", which has the declared aim (Art. 1) of **controlling throughout the territory of the Region the agricultural use of livestock-raising residues by the drafting of an agricultural plan to ensure retention of soil fertility, protection of surface and groundwater, and limitation of odour emissions.**

The regulations implementing Regional Law 37/93 came into force on 4 March 1995 and were first amended on 7 July 1995. The implementation regulations contained both the criteria for compilation of the agricultural use plans and a vulnerability classification of

regional areas based on stocking rates in individual local administrative areas and on the geopedology of the land.

The implementing regulations of Regional Law 37/93 were amended on 1 October 1996 to satisfy the requirements of Directive No 12/96 issued by the River Po Basin Authority ("Directive for control of pollution caused by livestock holdings"), which incorporates provisions from Directive 91/676/EEC.

Since this amendment of the implementing regulations, the territory of the region has been divided into "vulnerable" and "non-vulnerable" local administrative areas. For the time being, the local administrative areas currently deemed "vulnerable" are those failing to observe the nitrate-level requirements applicable to drinking water (cf. Presidential Decree 236/88). Holdings in "vulnerable" local administrative areas are allowed a maximum nitrogen burden from livestock-raising residues of 170 nitrogen units per year, which may be increased to 340 units in the case of high-absorption crops, as stipulated in the document mentioned above from the River Po Basin Authority; in the case of the "non-vulnerable" zones, the maximum nitrogen burden from livestock-raising residues is 340 units per year plus losses.

By Regional Law 37/93 and the subsequent implementation provisions, the Region has thus incorporated the provisions of Annexes I and II of Directive 91/676/EEC.

As to the redefinition of "vulnerable areas" provided for in Annex I of the directive, action will be taken in consultation with other sectors in the Region in the near future.

Regional Law 37/93 is in fact more restrictive than the European Directive, which leaves it to the discretion of farmers working in "non-vulnerable" areas whether to apply the Code of Good Agricultural Practice and does not make the limits of the action plans compulsory. The Lombardy Region, on the other hand, requires all holdings in Lombardy to observe the provisions laying down periods when fertilizers may not be applied, forms of and limits on application on sloping land, prohibition of application to saturated, flooded, frozen and snow-

covered land, application limits close to watercourses, instructions on the size of storage facilities to be provided on the basis not only of the length of the period when spreading is not allowed but also of field residue spreading schedules and the relevant crop rotations. There is also a ban on the application to land of amounts of nitrogen from residues exceeding the farm's crop nitrogen requirements, plus nitrogen losses in storage and distribution of the residues.

The implementing regulations of Regional Law 37/93 require all holdings (in both "vulnerable" and "non-vulnerable" areas) to obtain authorizations to spread residues on land. These regulations also approve an authorization procedure using the **official Giara 37 software**, developed with Milan University after scientific evaluation.

In the future, with computer data from all holdings in the Region and data from a number of monitoring stations (still at the planning stage) at key locations, it will be possible to verify the impact on the aquatic environment and the efficacy of the measures that holdings are required to observe in the various geographical areas; it will also be possible to alter these requirements where necessary.

[signature]

From: Autonomous Province of Trento
Department of Agriculture and Food
Trento

To: Ministry of the Environment
Service for Water Protection, Waste Control, Soil Clean-up and Physical Pollution Prevention
Rome

Fax and ordinary mail

Ref.: 1543/D109/97

Date: 2 July 1997

Re: Information

With reference to your request for information in letter ref. 14038/ARS/R dated 17 June 1997, we enclose documentation from the competent services of this Department.

Yours faithfully

[stamp and signature]

Enc.: as stated

SC/am

From: Autonomous Province of Trento
Agricultural Activity Supervision and Promotion Service
Trento

INFORMATION

The Agriculture Services have always been particularly concerned with the assessment and analysis of problems of limiting the use of chemical products in the agricultural sector so as to protect the health of farmers and consumers and to safeguard the area's ecology and environment.

As long ago as in October 1986, the Provincial Council issued a Decision approving the "Agricultural ecology project", on the basis of which a number of important initiatives in the sector were drawn up and subsequently implemented during the period 1987-89.

Common to these initiatives were two basic objectives:

1. Ecological and environmental improvement of farmland.
2. Protection of farmers and consumers.

In March 1990 the Provincial Council approved a three-year "Operational project for biological agriculture and the limitation of chemical products" (subsequently extended), with the aim of consolidating the initiatives of the "Agricultural ecology project", while at the same time implementing agreements in the fruit-growing, wine, horticulture and minor-crop sectors as well as in the animal feed, livestock-raising, dairy and cheese, fish-farming and Grappa sectors.

The new project therefore also had the aim of securing an overall reduction in the impact of chemical treatments. This objective was pursued initially by way of guided production and subsequently integrated production. The latter involves a reduction in the use of synthetic chemical products (fertilizers and pesticides) and a review of agricultural practices and of the

genetic characteristics of the varieties grown, the aim being no longer to maximize production but to obtain crops of high organoleptic and dietary quality, as befits our mountain environment. This will also enhance the plants' natural disease and pest resistance and safeguard the biological equilibrium of the environment.

Funding was provided by the project in 1996 for such measures as analysis of nitrate levels in potatoes, carrots, cabbage, celeriac, radicchio di Treviso, onions, courgettes and lettuce (both organic and conventional).

The products analysed came from the Valle di Gresta, the main centre for horticulture in the Province of Trento: total vegetable production by the Valle di Gresta Cooperative amounts to some 21 000 quintals.

The integrated-production guidelines for the sectors mentioned above contain advice on rationalizing fertilizer use so as to achieve the correct nutrient balance for the plant while at the same time avoiding wastage and environmental pollution.

In the **guidelines for the wine sector** in particular, the advice is to avoid the application of organic fertilizer in late spring or summer because this results in excessive nitrogen release at times when the vines do not need it.

The **production guidelines for horticultural and minor crops** explicitly mention the subject of nitrates in vegetables and water, since these may constitute a risk to human health.

To quote the guidelines: "For plants, nitrates are natural substances, present in amounts that vary according to a number of factors, such as light intensity, temperature, water, available nitrogen, variety, etc. Nitrogen fertilization is an important determinant of nitrate levels in vegetables, as well as of the quality and keeping ability of the vegetables. High doses sometimes result in leaching of nitrates, which then pollute the groundwater. For this reason, farmers should bear the following in mind:

- Never overdo applications, because nitrates accumulate.

- Do not top-dress beyond the growth period of the plants.

- Reduce nitrogen application or stop it altogether in the following circumstances:

  - where the nitrogen content revealed by analysis is high;
  - where the previous crop was plentifully fertilized;
  - where there are high levels of active organic material (5-7%).

- Never spread more than 50-70 kilos per hectare in a single nitrogen application, and always avoid applications too close to harvest time."

In the **guidelines for the livestock-raising and dairy/cheese sector**, apart from optimization of fodder production techniques, attention is drawn to the design of the livestock housing, which "must be so scaled in relation to its site that excreta can be disposed of without excessive environmental impact".

In addition, excreta are required to be stored and disposed of in accordance with the surface area and production sector of the holding and with the nature of the surrounding country; particular importance attaches to the production of clearly defined types of organic residues (farmyard manure or liquid manure) so as to allow the application of appropriate transport, storage, rotting and spreading techniques. The choice of whether to produce farmyard manure or liquid manure depends not only on technical and economic considerations (availability of reasonable-cost litter, equipment available, type of crops grown, degree of consolidation or fragmentation of the holding's land, and slope of the land) but also on the site of the holding (proximity to residential areas) and other factors.

Trento, 25 June 1997

From: Autonomous Province of Trento
Agricultural Holding Structures, Management and Development Service
Trento

To: Department of Agriculture and Food

Attention: [redacted]

Date: 1 July 1997

Ref.: 6126/97/C42

Re: Action to protect the aquatic environment from pollution from agricultural/livestock-raising sources

The following information is provided in reply to the letter from the Ministry of the Environment, Water Protection Service, ref. 14038/ARS/R, requesting details of action taken to protect the aquatic environment from nitrate pollution from agricultural/livestock-raising sources.

The principal measures adopted by the Autonomous Province of Trento to protect bodies of surface water and groundwater from pollution due to the agricultural/livestock-raising activities in which this Service is directly involved concern the following sectors:

a) Capital investment relating to holdings in the livestock-raising sector in accordance with the provisions of Regulation 2328/92/EEC and subsequent amendments and additions; a particular requirement is observance of the limitation on the number of dairy cows per holding mentioned in Art. 6.

- No aids are granted for investments that would result in an increase in the number of pig places.

- The granting of aids for the construction of new housing or the extension of existing housing depends on observance of the milk quota rules and on the

holding's producing at least 60% of the feed requirements of the cattle raised in terms of feed units.

b) Precise application of the agroenvironmental programme approved by the European Commission in accordance with Regulation 2078/92 involves a significant reduction in the use of chemical fertilizers and limitation of the application of pest-control products, for the sake of the environment and of watercourses in particular.

c) The compensatory amount mentioned in Art. 17 of Regulation 2328, in the case of the fodder/livestock-raising sector, is calculated and granted at the rate of 1 LU/ha; this is substantially stricter than the rate specified in the recent Regulation 950/97/EEC, which limits the grant of the payment to 1.4 livestock units (LU) per hectare of total holding area.

d) The premium for the cultivation and use of grazing land is granted only if the stocking rate does not exceed 1.4 LU/ha of grazed land.

e) Again in the field of farm action in the livestock sector, particular attention is paid to the management, rotting and storage of excreta and in some cases to the construction of farmyard manure collection and rotting centres.

f) In the case of Alpine summer pastures, action is proposed to secure the collection and correct management of excreta arising in the milking parlour and waiting area, to avoid leaching and penetration into surface and underground watercourses.

Yours faithfully,

[rubber stamp]

[signature]

PST/ms