# COMPUTERIZATION OF THE DIAGNOSIS TREATMENT AND CONTROL OF COMMON POULTRY DISEASES IN NIGERIA

*BY*

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# APPROVAL SHEET

This research project has been examined and found acceptable in partial fulfillment of the requirement for the Post-Graduate Diploma in Computer science of the Department of Mathematics/Computer Science, Federal University of Technology.

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# DEDICATION

This research work is dedicated to my mother, Aishatu Mala and wife Amina Usman Modibbo (Ummi Manga).

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# ABSTRACT

This piece of research work attempts to explore a computerized procedures for the diagnosis, treatment and control of some common poultry disease in Nigeria. This in contrast to the traditional doctor -client interaction hitherto been obtained. Although this new system been designed is not aimed at completely replacing the old system, if however fully developed to cover more diseases, allow for laboratory tests to be carried out and the results used, post-mortem results also considered, it can ease the difficulty of poultry farmers in getting prompt and immediate solution to their disease problems and to a very large extent replace the old system.

To this end, this project first discusses about the management and pathology of common poultry diseases. Attempt was then made to allow the computer obey instructions to pin-point a possible disease that may be affecting a sick bird/s. The logical and physical specification of the proposed system was designed. The logical design comprises of the output specification, input specification and system procedure of the proposed system while the physical design contains the physical construction in terms of program developed to achieve the objective of the system.

Finally, the mode of operation of the proposed system and its implementation are stated. The implementation stage is designed to be interactive to employ ease of usage.

# CHAPTER ONE

# 1.0 INTRODUCTION

## 1.1 INTRODUCTION TO POULTRY MANAGEMENT

The poultry industry has been a good and important source of protein supply to many Nigerian homes through the supply of eggs and poultry meat. Their waste (poultry faecal droppings) is in addition a good protein source to the ruminant livestock (cattle, sheep, goat) because of their ability to metabolize the high urea content of it to protein. A considerable proportion of the Nigeria population are engaged in poultry raising as a means of livelihood, thus reducing the long unemployment queue which is escalating yearly.

A new dimension that is yet to be incorporated into the poultry industry in this part of the world is computerization of its health related problems which if not checked or put under control could jeopardize or cripple the entire industry. This research project is therefore an attempt to computerize the diagnosis, treatment and control of poultry diseases common in Nigeria.

## 1.2 DEFINITIONS

(i) **COMPUTER** - Fapohunda (1995) defines a computer as a machine that follows instructions in order to process data, solve a specific problem or accomplish a particular task.

(ii) **PROGRAM** - These are sets of instructions that a computer follows in order to accomplish a particular task.

(iii) **SOFTWARE** - These are collection of programs that are made to work together for a specific purpose (Fapohunda 1995).

(IV) **COMPUTERIZATION** - This is the process of applying a computer to a particular application.

(v) **DIAGNOSIS** - Roper (1978) defines it as an act or art of distinguishing one disease from another.

(vi) **TREATMENT** - This is the art of curing a disease.

(vii) **DISEASE** - This is a disorder of the body such that normal body functions are altered, leading to ill health.

(viii) **CONTROL** - This is the act of reducing the rate or prevalence of disease or disease causing agents to a level that it can be tolerated in a population.

(ix) **PREVENTION** - This is the inhibition of entry of disease or diseases causing agent into an area or population.

(x) **ERADICATION** - This is complete wiping out of disease in a population

(xi) **POULTRY** - FAO/WHO (1977) defines poultry to mean any domesticated bird including Chickens, turkey, ducks, geese, guinea fowls or pigeons.

## 1.3 POULTRY POPULATION IN NIGERIA

Adegeye (1981) reports that the population of exotic (foreign) birds (poultry) in Nigeria as at 1978 were 4,303,970 layers , 2,210,115 chicks, 1,985,282 broilers with a total of 8,472,362 That of the local chickens he further reported is 130,171,661 at the same period excluding Kano and Niger States whose statistics was not available then. With an expected $2^1/_2\%$ population growth, the total population of exotic birds and local chicken is expected to be about 11,226,579.70 and 134,402,890 respectively.

## 1.4 POULTRY BREEDS

MCnitt (1983) classify poultry (chickens) into 2 viz based on area of origin where we have American, Mediterranean, English and Asiatic classes and based on body weight where they are classified as light and heavy breeds. The light breeds include Ancona, Andulasian, minorca and white leghorn. They lay more but smaller eggs than the heavy breeds but only for one season and are more prone to cannibalism and are generally nervous and their mature weight is less then 3kg. The heavy breeds include Australorp Dorking, new Hampshire, orpington, playmouth Rock,

rhode island red and wyandotte. The heavy breed weigh more then 3kg when mature, are less excitable and lay for several seasons.

MCnitt (1983) also classify chickens into egg producing type (layers) and meat producing type (broilers).Chickens in the Mediterranean class are noted primarily for egg production. Breeds have large combs, mature early and produce white shelled eggs and they include Ancona, Andulasian, leghorn, minorca. In contrast, American class egg producers yield brown eggs have yellow skin and non feathered shanks with red ear lobes. They include new Hampshire, plymouth rock, Rhode island red, wyanthdotte.

The English class are primarily meat producers and lay mostly brown shell eggs, when used as layers. They have white skin and breeds include Australorp, Dorking, sussex, cornish or pington. Like the English class, the Asiatic class are also meat type poultry. They have feathered shanks and toes and produced brown eggs when used as layers. Breeds here include Brahma, cochin, langshan.

MCnitt (1983) also reported dual purpose chickens as well as the hybrid type. The dual purpose chickens produce substantial quantity of eggs as well as reasonable degree of meat. They include plymouth Rock, New Hampshire and Australorp breeds. The hybrid chickens are special crosses combining the best characteristics of the parent breeds. Hybrid chickens are however not advised to be used as breeders for another hybrid as the high production characteristics of the parents are not passed to the offspring.

## 1.5 POULTRY MANAGEMENT

For the first 5-6 weeks, the management of chicks is similar regardless of whether they are to be used as layers or broilers later MCnitt (1983).In general, the management of poultry encompasses getting the brooding house, brooding equipments, necessary vaccines and drugs and little knowledge of poultry management techniques all ready before the arrival of the chicks.

### 1.5.1 MANAGEMENT OF CHICKS

Prior to chicks arrival the brooder's house and equipment must be prepared by through cleaning and disinfection using hot water or chemicals such as 70% alcohol, 0.5-1% formalin, get the heating equipments such as a 60watt bulbs or kerosine lantern whose numbers depend on the number of chicks to raise and the available floor space. Sun-sterilize your litter and spread to about 100-125mm deep over the floor. Stir the litter 2-3 times a week and fresh one added until a final depth of 180-225mm has been reached. Suitable litter materials include sawdust, wood shavings, broken maize cobs, groundnut shells. The hovers (brooders) are usually not more than 1.2m in dimension and hung at 200-250mm from the floor. Each chick should be allowed 4,500-6,500mm2 floor space under the hover. However, floor space requirement per bird of 6-10 weeks is about $0.10M^2$ while if the birds are for laying eggs each bird will require 0.14-0.19m2 for the light breed such as leghorn and $0.23\text{-}0.28m^2$ for the heavy breed. Failure to observe this rule will lead to cannibalism and other poultry vices in his flocks.

Hoverguards which are small cardboard, wood or metal barrier placed around the hover to enable the chicks to stay within the hover (brooder). It is placed around the hover 0.75 - 1.00m out from the edge. It should be 380-450mm high. A small light under the lover for the first few days and night will make it easier for the chicks to find the heat source. It can be removed after 7-10 days to allow chicks free access to the entire brooder house.

Clean water should be provided. For the first few days provide many small water fountains which should allow at least 10mm of drinking space per chick under the hover and should be scattered widely through the area used by the chicks. This allows them to learn how to drink. After 7 days, the water fountains should be placed on a firm base to prevent wetting the litter. Clean the water fountains daily and reduce their number but increase the quantity of water per fountain as the birds gets older. Provide about 15mm drinking space per birds above 2 weeks old. Chicks should not move than 4.5m to get water and so distribute the water fountains evenly in the house.

During their first 1-2 weeks of life, give chick mash in very shallow trays and fill the trays to full capacity so that it can overflow on the papers beneath the tray. When they have learnt to eat, fill the tray to 2/3 full or less. Space requirement is 25mm per bird for the first 2 weeks, 5omm for 3-6 weeks old birds and 75mm for bird of 7 weeks and older.

Day old chick require about 32-35$^{oc}$ temperature. This should be reduced by 2-3°c each week until about the 6th week or until about a temperature of 21-24°c is

reached. Even spread of the birds in the pen shows that the temperature is adequate. If they disperse from the heat source or cluster around it, then the temperature is too much and too cold respectively (Sainsbury 1980, MCnitt 1983, Payne 1990).

### 1.5.2 MANAGEMENT OF PULLETS

Pullets refers to a female chicken up to the completion of its first laying season. However, for this purpose, it will be taken to be a female chicken from the 5th week up to 17 weeks of age. The management of chicks meant for laying changes from 4th-5th week when they will be managed as pullet until about 17 weeks when they will again be managed as layers. The rearing house and all equipment should be thoroughly cleaned and disinfected before the arrival of the birds. For deep litter, clean dry litter should be spread 100-125mm deep over the floor and rounded into heaps in the corners to stop them from piling into the corners at night which may result in death due to crushing and suffocation. Pieces of plywood cut into equilateral triangles about 0.3m on a side may also be leaned in the corners to prevent piling. Litter management is same with that of chicks.

In deep litter system, tube feeder or troughs is used while in battery cage system, the trough is used. Tube feeder should be suspended as the birds grow larger. They should be given fresh feed each day. The feed should be gradually changed from chick starter (mash) to growers mash until they are about 17 weeks old when a gradual change to laying mash should begin. Feed troughs should not be more then 1/3 filled to reduce wastage and ensure that fresh feed is available. Stir the feed from

time to time (Sainsbury 1980, MCnitt 1983, Payne 1990).Clean and fresh water should be provided. large fountain type waterers are used for the deep litter. They resemble tube feeders. Automatic waterers are normally used in a battery house. (See tables 1 and 2 below).

**FEED CONSUMPTION OF GROWING CHICKENS (REPLACEMENT FLOCK PULLETS)**

| Age (week) | APPROXIMATE POUNDS OF FEED CONSUMED BY 100 PULLETS | | | | |
|---|---|---|---|---|---|
| | Leghorns | | | Heavy Breeds | |
| | Daily | Weekly | Cummulative | Daily | Cummulative |
| 1 | 1 | 10 | 10 | 2.3 | 115 |
| 2 | 3 | 20 | 30 | 4.0 | 545 |
| 3 | 5 | 40 | 70 | 7.0 | 395 |
| 4 | 7 | 50 | 120 | 9.5 | 160 |
| 5 | 8 | 55 | 175 | 10 | 7230 |
| 6 | 9 | 60 | 235 | 12 | 0315 |
| 7 | 10 | 70 | 305 | 14 | 8415 |
| 8 | 11 | 75 | 380 | 16 | 5525 1 |
| 9 | 12 | 80 | 460 | 17 | 1645 |
| 10 | 13 | 90 | 550 | 18 | 2775 |
| 11 | 14 | 100 | 650 | 19 | 0910 |
| 12 | 15 | 110 | 760 | 20 | 11,050 |
| 13 | 16 | 115 | 875 | 21 | 11,195 |
| 14 | 17 | 120 | 995 | 21 | 41,345 |
| 15 | 18 | 130 | 1,125 | 22 | 51,500 |
| 16 | 19 | 135 | 1,260 | 23 | 11,660 |
| 17 | 20 | 140 | 1,400 | 24 | 11,830 |
| 18 | 21 | 145 | 1,545 | 26 | 72,010 |
| 19 | 21 | 150 | 1,695 | 27 | 02,200 |
| 20 | 22 | 155 | 1,850 | 29 | 12,400 |

Table 1

The above table is hereby converted into System Internatinal Unit(S.I. Unit)

| Age (week) | APPROXIMATE KILOGRAMS OF FEED CONSUMED BY 100 PULLETS | | | | | |
|---|---|---|---|---|---|---|
| | Leghorns | | | Heavy Breeds | | |
| | Daily | Weekly | Cummulative | Daily | Weekly | Cummulative |
| 1 | 0.45 | 4.54 | 4.54 | 1.04 | 6.81 | 6.81 |
| 2 | 1.36 | 9.09 | 9.09 | 1.81 | 13.63 | 20.45 |
| 3 | 2.27 | 18.18 | 18.18 | 3.18 | 22.70 | 43.18 |
| 4 | 3.18 | 22.72 | 22.72 | 4.31 | 29.54 | 72.72 |
| 5 | 3.63 | 25.00 | 25.00 | 4.54 | 31.81 | 104.54 |
| 6 | 4.09 | 27.27 | 27.27 | 5.45 | 38.63 | 143.18 |
| 7 | 4.54 | 31.81 | 31.81 | 6.36 | 45.45 | 188.63 |
| 8 | 5.00 | 34.09 | 34.09 | 7.27 | 50.00 | 238.63 |
| 9 | 5.45 | 36.36 | 36.36 | 7.27 | 54.54 | 293.18 |
| 10 | 5.90 | 40.90 | 40.90 | 8.18 | 59.09 | 352.27 |
| 11 | 6.36 | 45.45 | 45.45 | 8.63 | 61.36 | 413.63 |
| 12 | 7.27 | 50.00 | 50.00 | 9.09 | 63.63 | 477.27 |
| 13 | 7.27 | 52.27 | 52.27 | 9.54 | 65.90 | 543.18 |
| 14 | 7.72 | 54.54 | 54.54 | 9.54 | 68.18 | 611.36 |
| 15 | 8.18 | 59.09 | 59.09 | 10.00 | 70.45 | 681.81 |
| 16 | 8.63 | 61.36 | 61.36 | 10.45 | 72.72 | 754.54 |
| 17 | 9.69 | 63.63 | 63.63 | 10.90 | 77.27 | 83.81 |
| 18 | 9.54 | 65.90 | 65.90 | 11.81 | 81.81 | 913.63 |
| 19 | 9.54 | 68.18 | 68.18 | 12.27 | 86.36 | 1000.00 |
| 20 | 10.00 | 70.45 | 70.45 | 13.18 | 90.90 | |

Table 2

Increasing daylenght stimulates production while decreasing daylengt inhibits it. However, pullet that start laying at maturity usually lay smaller eggs and will not produce as much as those that start laying at maturity and so it is important not to allow the pullet start laying before maturity. This means ensuring that the birds are not exposed to increasing daylenghts from about 8th-20th week. If the period the rearing of the pullet is taking place is naturally shorter in daylenght, then it is fine. However, if the periods is such that daylenght is longer, then you have to gradually reduce it by 15 minutes per week until the 20th week (sainsbury 1980, MCnitt 1983, Payne 1990).

### 1.5.3 MANAGEMENT OF LAYERS

Pullets will begin laying small eggs called pullet eggs at 20-21 weeks of age. They will however reach normal size within 1-2 weeks. In the litter system, the layers are run on 100-150mm of litter on the floor of the house. Litter should be added until a final depth of 200-250mm is reached. The management of litter is same as for chicks. litter should not be too dry or too wet. Ideal moisture content is 20-30%. Too wet litter predisposes to coccidiosis or high ammonia levels while too dry litter predisposes to respiratory problems.

Use of nest boxes results in cleaner eggs and less problem with breakage and egg picking by the birds. Each box should be 255 by 305mm to 305 by 355mm depending on the size of the hen. It should have good ventilation and be kept dark. They should be placed about 0.5m from the floor. Provide door to the nest and close

at night to prevent birds from sleeping inside at night.One nest should be provide to every 4-5 pullets. Place the nest before they start laying and place some china eggs to help them get used to the nest. It should be lined with material such as hay straw, wood shavings or sawdust to reduce breakage of the eggs as this can lead them to start eating the eggs which can be a difficult habit to control.

In battery cage system, each bird or pair of birds or more is placed in a cage. The floor under the cage is sloped to allow for easy cleaning. Provision should be made to guide against extremes of heat and cold. Curtains are used for this. Although batteries are more costly than the deep litter system, it however reduces contamination of food and water with droppings, allows easy recording of individual egg production, reduce bullying or interference at the feed or water troughs, reduces the spread of disease and result in clean manure which can be dried and used as a non protein nitrogen source for feeding ruminants.

All layers should be fed laying mash or pellets. Hens will eat more pellets, therefore will lay more eggs if fed pellets. Pellets however, are more expensive than mash so the profit from its use may be marginal. In addition to feeding fresh concentrate feed and fresh clean water daily, provision of fresh green feed 3kg/100 birds/day and oyster shell will improve egg production and quality. One tube feeder or a single 2m long trough containing oyster shell (Calcium carbonate) should be provided for each 100 birds. You may provide 500gm of grits for each 100 birds per week in their feed trough. Ensure free flow of air in the house. (see tables 3 & 4 below).

## FEED CONSUMPTION OF LAYING CHICKENS

## AVERAGE AMOUNT OF FEED REQUIRED PER DAY AND PPER DOZEN EGGS BY 100 HENS OF DIFFERENT

## WEIGHTS AND EGG PRODUCTION UNIVERSITY OF ILLINOIS CIRCULAR 606.

| Eggs per 100 hens per day | Feed for 4-pounds hens | | Feed for 5-pounds hens | | Feed for 6-pounds hens | | feed for 7-pounds | |
|---|---|---|---|---|---|---|---|---|
| | per day lb | per dozen eggs lb | per day lb | per dozen egg lb | per day lb | per dozen eggs lb | per day eggs lb | per dozen eggs lb |
| 0 | 15.6 | - | 17.8 | - | 20.0 | - | 22.2 | - |
| 10 | 17.0 | 20.5 | 19.2 | 23.2 | 21.4 | 25.7 | 23.6 | 284 |
| 20 | 18.5 | 11.1 | 20.7 | 12.4 | 22.9 | 13.7 | 25.0 | 150 |
| 30 | 19.9 | 8.0 | 22.1 | 8.8 | 24.3 | 9.7 | 26.5 | 106 |
| 40 | 21.3 | 6.4 | 23.5 | 7.1 | 25.7 | 7.7 | 27.9 | 8.4 |
| 50 | 22.8 | 5.5 | 25.0 | 6.0 | 27.1 | 6.5 | 29.3 | 7.0 |
| 60 | 24.2 | 4.8 | 26.4 | 5.3 | 28.6 | 5.7 | 30.8 | 6.2 |
| 70 | 25.6 | 4.4 | 27.8 | 4.8 | 30.0 | 5.1 | 32.2 | 5.5 |
| 80 | 27.0 | 4.1 | 29.2 | 4.4 | 31.4 | 4.7 | 33.6 | 5.0 |
| 90 | 28.5 | 3.8 | 30.7 | 4.1 | 32.9 | 4.4 | 35.0 | 4.7 |
| 100 | 29.9 | 3.6 | 32.1 | 3.9 | 34.3 | 4.1 | 36.5 | 4.4 |

* Two-ounce eggs are assumed.

Table 3

The above table is converted into System International Units (S. I. Units)

| Eggs per 100 hens per day | Feed for 1.8kg | | Feed for 2.2kg hens | | Feed for 2.7kg hens | | feed for 3.1kg hens | |
|---|---|---|---|---|---|---|---|---|
| | per day Kg | per dozen eggs kg | per day kg | per dozen egg kg | per day kg | per dozen eggs kg | per day eggs kg | [illegible] |
| 0 | 7.09 | - | 8.09 | - | 9.09 | - | 10.09 | - |
| 10 | 7.72 | 9.31 | 8.72 | 10.54 | 9.72 | 11.68 | 10.72 | 129.0 |
| 20 | 8.40 | 5.04 | 9.40 | 5.63 | 10.40 | 6.22 | 11.36 | 68.1 |
| 30 | 9.04 | 3.63 | 10.04 | 4.00 | 11.04 | 4.40 | 12.04 | 48.1 |
| 40 | 9.68 | 2.90 | 10.68 | 3.22 | 11.68 | 3.50 | 12.68 | 38.1 |
| 50 | 10.36 | 2.50 | 11.36 | 2.72 | 12.31 | 2.95 | 13.31 | 31.8 |
| 60 | 11.00 | 2.18 | 12.00 | 2.40 | 13.00 | 2.59 | 14.00 | 28.1 |
| 70 | 11.63 | 2.00 | 12.63 | 2.18 | 13.63 | 2.31 | 14.63 | 25.0 |
| 80 | 12.27 | 1.86 | 13.27 | 1.90 | 14.27 | 2.13 | 15.27 | 22.7 |
| 90 | 12.95 | 1.72 | 13.95 | 1.86 | 14.95 | 2.00 | 15.90 | 21.3 |
| 100 | 13.59 | 1.63 | 14.59 | 1.77 | 15.59 | 1.86 | 16.59 | 20.0 |

* 56.68 gms eggs are assumed.

Table 4

Increasing day length has a stimulatory effect on production where as decreasing daylenght will inhibit production. If the hens come into lay during the longest daylenght of the year, artificial means will be required to maintain this daylenght, where as if they come into lay during the period of shortest daylenght no artificial light will be required. If desired, the daylenght may be maintained at a constant 14-16 hours of light and will give good results. Extra day length can

be provided using artificial light from electric bulbs or lanterns. This is to provide more hours of eating and also stimulates the pituitary gland. To increase daylengt, just turn on the light at dusk and leave them until the desired hours of light have elapsed. Increase the length of daylight gradually, not more then 15 minutes per week (sainsbury 1980, MCnitt 1983, Payne 1990).

### 1.5.4 MANAGEMENT OF BROILERS

Broilers are birds which are bred and raised especially for meat. Management up to 5 weeks is same as for chicks. Thereafter (after period of brooding) the broilers are raised on litter using batch system. Here, a house is filled with the proper number of birds (allowing 0.1 square mater of floor space per bird) which are then reared together and all killed or sold at nearly the same time. This is when they normally reach the weight of 1.4-2.0kg which is attained at about 9-11 weeks old. Housing, litter management, feeding and watering requirement is similar to that of pullets. However, they should be placed on broilers mash (finisher) as from 5-7 weeks until marketed. It is possible to enchance growth of broilers by castration (caponization) implanting hormones under the skin. This is however prohibited in some countries (Sainsbury 1980, MCnitt 1983, Payne 1990). (see Table 3).

## FEED AND WATER CONSUMPTION OF BROILERS

## (WITH FEED CONVERSION INDICATED FOR VARIOUS WEIGHT)

| Age (week) | Average (weight) | FEED CONVER-SION (CUMMUL-ATIVE) | FOR EACH 1,000 BROILERS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | APPROXIMATE POUNDS OF FEED CONSUMED | | | APPROXIMATE GALLONS OF WATER CONSUMED | | |
| | | | DAILY | WEEKLY | CUMMULA-TIVE | DAILY | WEEKLY | CUMMULA-TIVE |
| 1 | .19 | .74 | 20 | 140 | 140 | 5 | 35 | 35 |
| 2 | .37 | 1.19 | 43 | 300 | 440 | 10 | 70 | 105 |
| 3 | .65 | 1.43 | 70 | 490 | 930 | 17 | 120 | 225 |
| 4 | 1.04 | 1.55 | 97 | 680 | 1610 | 23 | 165 | 400 |
| 5 | 1.51 | 1.68 | 132 | 920 | 2530 | 31 | 220 | 610 |
| 6 | 1.99 | 1.80 | 152 | 1060 | 3590 | 36 | 255 | 865 |
| 7 | 2.50 | 1.94 | 179 | 1250 | 4840 | 43 | 300 | 1166 |
| 8 | 3.01 | 2.09 | 206 | 1440 | 6280 | 49 | 345 | 1515 |
| 9 | 3.57 | 2.20 | 223 | 1560 | 7840 | 54 | 375 | 1890 |

Willis S. Reed and W. C Skoglund, "Growth and Feed Standard for Broilers - 1959," Station Bulletin 466, University of New Hampshire, October 1959.

Table 5

The above table is hereby converted into system international Units (S. I. Units)

| Age (week) | Average (weight) | FEED CONVERS-ION (CUMMULATIVE) | FOR EACH 1,000 BROILERS | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | APPROXIMATE KILOGRAM OF FEED CONSUMED | | | APPROXIMATE GALLONS OF WATER CONSUMED | | |
| | | | DAILY | WEEKLY | CUMMULATIVE | DAILY | WEEKLY | CUMMU-LATIVE |
| 1 | 0.086 | 0.336 | 9.090 | 63.636 | 63.636 | 5 | 35 | 35 |
| 2 | 0.0168 | 0.540 | 19.545 | 136.363 | 200.00 | 10 | 70 | 105 |
| 3 | 0.295 | 0.650 | 31.818 | 222.727 | 422.727 | 17 | 120 | 225 |
| 4 | 0.470 | 0.704 | 44.090 | 309.090 | 731.818 | 23 | 165 | 400 |
| 5 | 0.686 | 0.763 | 60.000 | 418.181 | 11.500 | 31 | 220 | 610 |
| 6 | 0.904 | 0.818 | 69.090 | 48.818 | 1631.818 | 36 | 225 | 865 |
| 7 | 1.136 | 0.881 | 81.363 | 568.181 | 2200.000 | 43 | 300 | 1,166 |
| 8 | 1.368 | 0.949 | 93.636 | 654.545 | 2854.545 | 49 | 345 | 1,515 |
| 9 | 1.622 | 1.000 | 101.363 | 909.090 | 3563.636 | 54 | 375 | 1,890 |

Table 6

### 1.5.5 MANAGEMENT OF BREEDING STOCK

At times it may be desirable or necessary to breed and hatch your own chicks. Managing breeding stock is different from that of production birds.

During pre-breeding management, when brooding breeding stock at least 15 cockerels should be in included for every 100 pullets. The number can be reduced to 12 at eight weeks when any poor cock should be removed. At 22 weeks (just before breeding begins), the number can be reduced to 8-10 for the heavily meat breeds

while for light breeds such as leghorns, 15 cocks per hen should be used and for the medium breeds such as the plymouth Rock, about 12 is sufficient.

Removal of the comb (dubbing) and detoeing which is the removal of the toes is done at day old . However, detoieng is done only for the male. This is done to avoid injury to the female by the male during mating at maturity. Debeak the female at day old. At 12-14 weeks, the cocks should be dewattled. This should not be done later than this period or else it will interfere with fertility. If the cocks are not detoed, the toenails can be blunted just before they are placed with the hens.Cocks should be installed in the breeding house for a few days before the pullets arrive. This allows the cocks to be used to each other, to establish social ranking and get used to the house. Avoid introducing new cock after this period to avoid fighting among the cocks which may interfere with breeding or cause death. If it becomes necessary to add new cock after installation, it should be done about one hour before dark.

During breeding a cock will mate 20 to 80 times each day depending on competition, the number of females available ,the cocks position in the social order and climatic factors such as temperature and light. However, most matings occur early in the day. Cocks may mate several times with a certain hen and it has been shown that even in a flock, individual males mate only with certain females. If for some reason a cock is unable to mate, the females which he has been mating will not accept another male until the first cock is removed. Having too many cocks in the breeding pen will reduce fertility since there will be undue fighting and too much competition for the available females.

When only one cock is used to mate a group of females is called pen mating. The advantage is that the parentage of the resulting chicks is accurately known. However, it has the disadvantage of producing non-fertile eggs if the cock is non-sterile and the overall fertility when using pen mating is lower than with flock mating even when fertile males are used in both situations.

When selecting breeding stock, choose birds with good vigor. Selected bird should be active, alert, have interest in the opposite sex, eat well and have full crops. vigorous birds go to the roost late and get off early in the morning.

Breeding stock have good plumage and good body conformation for the improvement of the chicks. Selection should be done during growing period as good selection ensures that good quality chicks are produced (MCnitt 1983).

# CHAPTER TWO

# 2.0 POULTRY PATHOLOGY

## 2.1 COMMON POULTRY DISEASES (PATHOLOGY) IN NIGERIA

### 2.1.1 VITAMIN A DEFICIENCY

Vitamin A is concerned with maintaining the structure and function of epithelial tissues. Hence, during vitamin A deficiency, the mucus-secreting cells in the conjuctiva, nasal sinuses, oesophagus and trachea become keratinized and cease to function. Exudate from these cells produces a watery occulo-nasal discharge (roup), accumulation of caseous materials in the eyes and nasal sinuses and white or yellow pustules in the Oesophagus and trachea. Vitamin A protect the animal from infection by helping to preserve the integrity of mucus membrane and signs of secondary infections are frequently evident in deficient animals particularly in the respiratory tract, intestine and kidneys. Vision is impaired by keratinization of the corneal epithelium and conjuctiva (Xerophthalmia).( Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall (1985).

Clinical signs seen in chicks are retarded growth, ruffle feathers (Plumage), in-coordination, staggering gait, loss of yellow pigmentation from shank and beaks, comb and wattle become pale, watery discharge from eyes and accumulation of cheesy materials under the eyes. In adult birds, there is decrease in egg production, conjuctivitis, watery occulo nasal discharge (roup)and eyelids stick together.

### 2.1.2 VITAMIN D DEFICIENCY

Chickens need vitamin D to use calcium properly in the formation of bones, for hard beaks and claws and strong egg shells. In chicks, a deficiency in vitamin D results in ricketts and osteomalacia in adults. In chicks, clinical signs seen are weakness of the bones, soft and pliable claws and beaks, lameness due to leg weakness, they sit on their hocks leading to hock enlargement. Chicks also sway from side to side.

In layers, there is drop in egg production, eggs may be shell-less or half formed, they appear lame and cannot stand on their legs(Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985).

### 2.1.3 VITAMIN E DEFICIENCY

This vitamin is required for normal embryonic development in chickens, normal function of the central nervous system, body musculature and reproduction. In chicks deficient in this vitamin, they stagger about in drunken fashion frequently falling over. When ataxia become more severe, paralysis develops particularly in the neck leading to torticollis and they may die with good body condition. Vitamin E deficiency causes crazy chick disease which has just been described above, exudative diathesis, muscular dystrophy. In exudative diathesis, there are lesions in the capillary walls and increase in the permeability which cause slight hemorrhages which allow plasma to pass through. This accumulates under the skin particularly over the breast, under the

wings and in the pericardial cavity and intramuscular spaces. There is severe macrocytic anaemia and clinical signs in chicks include chicks standing with their legs far apart as a result of accumulation of fluid under the ventral skin. Greenish blue viscous fluid is easily seen through the skin and appear throughout the legs and breast musculature as well as the intestine (Gordon 1977, Sainsbury 1980,Randall 1985).

In muscular dystrophy, chicks show signs of muscular dystrophy particularly of breast muscle. Degeneration and necrosis of the muscle fibres produce white streaks in the breast muscle and in the walls of the gizzard. (Gordon 1977).

### 2.1.4 VITAMIN K DEFICIENCY

Vitamin K play an important role in blood coagulation. It's deficiency leads to prolonged clotting time. A bird deficient in vitamin K may bleed to death following very minor injury. Affected chicks are anaemic, and show large hemorrhages, on breast, legs wings or abdominal cavity (Sainsbury 1980, Randall 1985).

### 2.1.5 VITAMIN B1 (THIAMINE) DEFICIENCY

Deficiency signs are seen in chicks under 2 weeks of age. The chick sit on it's flexed leg and head is drawn backward and appear to be looking at the sky producing a typical star gazing posture (opisthotonos). (Sainsbury 1980, Randall 1985).

### 2.1.6 VITAMIN $B_2$ (RIBOFLAVIN) DEFICIENCY

Deficiency of this Vitamin causes curl toe paralysis in chicks and is common in them because very little of it is produced in their gastro intestinal tract although appreciable amounts of it is produced from the gastrointestinal tract of adult birds. As a result, its dietary requirements are comparatively high for chicks. Clinical signs seen in chicks started on deficient starter diet include toes curled downward and inward and their weights are supported mainly on the locks. They are reluctant to move unless forced to and thus they become recumbent (Gordon 1977, Sainsbury 1980, Randall 1985).

### 2.1.7 VITAMIN B6 (PYRIDOXINE) DEFICIENCY

In this deficiency chicks are seen running aimlessly with flappering of wings and falling to their sides (Randall 1985).

### 2.1.8 PANTHOTENIC ACID DEFICIENCY

If there is a deficiency of this vitamin in the breeder's diet, embryos die between 12th and 14th day of incubation showing severe oedema and subcutaneous hemorrhage. Those that do hatch are stunted, show signs of a general malaise and respiratory distress and are unable to stand. In chicks, there is scaly dermatitis, particularly around the mouth and vent feather development is poor and eyelids stick together with a viscous exudate (Gordon 1977, Randall 1985).

### 2.1.9 NICOTINIC ACID DEFICIENCY

In this deficiency, there is enlargement of the hock joint and bowing similar to perosis or choline deficiency but the Achilles tendon rarely slips from it's Condyles. Glossitis, Stomatitis and poor feathering are seen (Gordon 1977, Sainsbury 1980, Randall 1985).

### 2.1.10 MANGANESE DEFICIENCY (PEROSIS)

Dietary requirement of manganese is higher for birds than mammals and so it's deficiency is felt more in them than in the later. It's absorption is poor in the intestine and is further inhibited by the presence of excessive amount of calcium and phosphorus in the diet. The amount of manganese present in common ingredients of poultry diet is generally inadequate and it is customary to incorporate a supplement (usually manganese sulphate) to provide the estimated requirement. In chicks, growth is retarded and develop crippling leg deformity called perosis. Perosis is characterized by gross enlargement and malformation of the Tibio metatarsal joint which causes gastrocnemius tendon to slip from it's condyles at the back of the joint and pull the leg sideways. In breeders and layers, there is fall in both hatchability and egg production. Embryos frequently die during the last few days of incubation and show gross skeletal defects including shortage of the limbs (Micromelia), a domed, globular head and shortening of lower mandible producing a parrot beak (Gordon 1977, Sainsbury 1980, Randall 1985).

### 2.1.11 ZINC DEFICIENCY

Galvanized steel cages provide sufficient zinc but with increase in use of plastic cages, deficiency symptoms sometime occur and hence the need to supplement feed with zinc oxide or zinc carbonate. Rich source of them include meat and fish meal. Zinc is necessary for growth and development of skeleton formation and maintenance of epithelial tissues, egg production. In chicks clinical signs include leg weakness, ataxia, long bones are short and thickened, joints are enlarged and rigid. Necrotic dermatitis on leg and feet. In breeding flock, there could be severely deficient embryos with faulty development of skeleton and entire limb may be absent (Gordon 1977, Sainsbury 1980, Randall 1985).

### 2.1.12 CALCIUM AND PHOSPHORUS DEFICIENCY

Calcium and phosphorus are required for normal bone and egg production. Calcium is also important for normal clotting of blood. The utilization of calcium and phosphorus depends on the availability of vitamin D. Deficiency of calcium and phosphorus results in rickets in chickens, reduced egg production and poor egg shell quality. In laying,birds calcium deficiency tends to deplete the calcium content of bones. Bones become thin and fractures may occur. Calcium deficiency also increases susceptility to hemorrhages (Sainsbury 1980, Randall 1985).

### 2.1.13 PULLORUM DISEASE (BACILLARY WHITE DIARRHOEA)

This is a bacterial disease caused by **Salmonella Pullorum**. The disease is acute in chicks and chronic in adults. Chilling, over crowding and insanitary conditions predispose to it. The disease can be transmitted from eggs from carrier hens, through infected litter, through attendants and incubator. In chicks, clinical signs include ruffled feathers, chicks appear sleepy,they hurdle together with eyes closed and produce a feeble cry continuously. They appear with-pot belly as if they are soaked in water and have white chalky diarrhoea in good cases. In breeding flock, the presence of a number of moribund and dead chicks in the incubator or chicks dying soon after hatching with no symptoms is suggestive of pullorum disease (Merck Veterinary manual 1991, Gordon 1977, Sainsbury 1980, Randall 1985, Salsbury 1962).

### 2.1.14 FOWL TYPHOID

This is also a bacterial disease caused by **Salmonella gallinarum**. It is transmitted through carrier hens [eggs hatched from carrier hens], through faeces of infected bird, through attendants and dead carcass. Clinical signs are similar to pullorum disease but mortality can be up to 90%. There could be increase thirst, drop in feed consumption; pale head, comb and wattles due to loss of blood and diarrhoea may be yellow and foul smelling. Similar signs are seen in adults ( Salsbury 1962, Gordon 1977, Sainsbury 1980,Randall 1985, Merck Veterinary Manual 1991).

## 2.1.15 AVIAN PARATYPHOID (SALMONELLOSIS)

This is also a bacterial disease caused mostly by **Salmonella typhimuruim** although specie of the genus **salmonella** can also cause it .It is of zoonotic importance as it is transmissible to man causing salmonellosis.It is transmitted through poultry products like egg,meat,faeces and mechanically through attendants.Mortality is high during first 2 weeks after hatching but seldom after 4 weeks.In chicks, clinical signs are similar to pullorum disease but are seen either at 4-5 days after hatching or 10-12 days old. Pullorum, fowl typhoid ,and avian paratyphoid all present similar clinical picture and are best distinguished from one another through biochemical tests.(Salsbury 1962,Sainsbury 1980,Randall 1985,Merck veterinary manual 1991}.

## 2.1.16 FOWL CHOLERA (AVIAN PASTEURELLOSIS)

It is a septicaemic bacterial disease of domestic fowl caused by **Pasteurella multicida**. These organisms are normally found in the respiratory tract but they become pathogenic under stress conditions. Chicks are resistant to this disease as the disease is seen mostly in fowl of 4 months old and above. In per acute form, dead occurs without any symptom. In acute form, there is drop in feed intake, mucus discharge from the mouth, purple colored comb and wattles, ruffled feathers, greenish yellow diarrhoea, dyspnoea, drop in egg production. In chronic disease, there may be swelling of comb and wattles, enlargement of joints, rattling respiration, catarrhal discharge from the nose, torticollis and head inclined to one side (Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary manual 1991).

## 2.1.17 INFECTIOUS CORYZA

It is an acute respiratory disease of chickens caused by a bacteria called **Haemophilus gallinarum**. Adults mostly suffer from the disease. It is seen mostly during the cold period. Clinical signs seen include profuse nasal discharge which is first watery then later sticky, soft swellings of the face which contain fluid and occasionally the wattles too.Feed consumption is lower and so is egg production (Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck veterinary Manual 1991).

## 2.1.18 CHRONIC RESPIRATORY DISEASE

This disease is caused by a bacteria **Mycoplasma gallisepticum**. The disease is of economic importance because of poor feed conversion, poor carcass quality, impaired reproductive performance, drop in egg production. The disease affects mostly broilers although chicks are affected. Concurrent infections with **E.coli**, infectious bronchitis,Newcastle disease, nutritional deficiency, increased ammonia in the environment, intensive management, bad weather all predispose to the disease. Transmission of the disease occur both vertically and horizontally. Clinical signs are seen only if there is complication from other infections and these include nasal discharge, coughing, sneezing and breathing through partly open beak, tracheal rales, mild conjuctivitis ( Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary Manual 1991).

## 2.1.19 AVIAN TUBERCULOSIS

A bacterial disease of chickens of all ages caused by acid fast organism called **Mycobacterium avium**. It is also pathogenic to rabbit, swine and sheep but rarely man, and sensitize cattle to tuberculin test but does not cause a disease in cattle. Cattle and man are affected by different strains **Mycobacterium bovis** and **Mycobacterium tuberculosis** respectively. The disease is of economic importance as it causes retarded growth, reduced egg production, source of infection to pigs and sheep and sensitize cattle to tuber culin test. It is transmitted mostly through ingestion although inhalation is also a possible route and mechanically through atten dants, utensils, equipments and other contaminated materials. Clinical signs seen mostly in adult due to long incubation period and these include emaciation, dehydration, pale comb and cattle, lameness particularly from one leg, reduced egg production, breast bone become prominent and gives the appearance of knife edge shape ( Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary Manual 1991).

## 2.1.20 BUMBLE FOOT

This occurs when there is injury to the bird and a bacteria **Staphylococcus aureus** get entry to the wound. Abbesses are seen on the sole or plantar surface. Broiler breeder male are more prone due to their heavy weight. It may involve one or both legs. Affected birds go lame, have diminished appetite and the female stop Laying (Gordon 1977, Merck Veterinary Manual 1991).

## 2.1.21 BOTULISM

It is a disease caused by the exotoxin secreted by a bacteria called **Clostridium botulinum**. It occurs when birds especially broilers at the age of 3 weeks and above consume food contaminated with the exotoxin of the bacteria as the bacteria is in itself not pathogenic but it's exotoxin. The bacteria is normally found in the intestine and invade the muscles when the birds die. When the carcass goes putrefied under aerobic condition, toxin is produced in the muscle and when live birds eat this carcass containing toxins, they come down with the disease. clinical signs seen include paralysis of the neck muscle, wings neck is extended with head resting on the ground ( Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary Manual 1991)

## 2.1.22 NEW CASTLE DISEASE

This is a viral disease of chickens and other birds characterized by lesions in the respiratory tract, visceral organs and brain causing moderate to severe mortality. It is of zoonotic importance as it can cause conjuctivitis in Man. Aproximately 200-250 outbreaks are reported yearly. It is caused by Newcastle disease virus which is a paramyxovirus. Based on pathogenicity of the virus, it is classified into 4 viz velogenic which is most pathogenic followed by mesogenic lentogenic and avirulent forms. It is transmitted through contaminated feed, infected bird, humans (mechanically), contaminated equipments and vaccine and through the wind. Clinical signs seen are dead without any sign, dullness, prostration, watery green diarrhoea, cough,

prolonged gasping respiration without stretched neck, head with opened beak, torticollis, dehydration, cyanosis of comb and wattle, many soft and imperfect shelled eggs layed (Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary Manual 1991).

### 2.1.23 GUMBORU DISEASE

Gumboru disease is an infectious bursal disease which is highly contagious. It is caused by infectious bursal disease virus and the disease can be acute or subclinical. It causes immuno depression when the birds are older than 6 weeks old and immuno suppression when they are less than 3 weeks old with the result that birds respond poorly to vaccination and become susceptible to opportunistic infections like with E. coli. For this reason, even debeaking should not be done when they have Gumboru until they recover. Clinical signs seen include droopiness, unthriftiness, Soiled vent feathers, anorexia, ruffled feathers, trembling, death ( Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary Manual 1991).

### 2.1.24 FOWL POX (CHICKEN POX)

This is a chronic mild viral disease characterized by eruptions and scar-like lesions in the skin, comb, wattles and diphtheritic lesions in the mouth and upper part of trachea. It is caused by poxvirus. It is mostly seen in adult birds of 5-12 months old. It is transmitted through injured or lacerated skin, mosquitoes and other blood sucking insects like ticks, lice. Clinical signs include typical pox lesions on unfeathered

parts of the head such as comb, wattles, eyelids and corners of the beak and in severe cases it extends to the feet, legs. This is the mild form of the disease while diphtheritic form is the severe form of the disease. Clinical signs seen here are small caseous white patches appear in the mouth at the side of the tongue on the roof of the palate and around the epiglottis. The lesions coalesce to form large necrotic diptheretic membrane and death result from suffocation because the membrane may occlude the respiratory tract. However, mortality is low unless complicated with other diseases (Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary Manual 1991).

### 2.1.25 MAREK DISEASE

This is a lymphoproliferative disease of domestic chicken which affects most organs and tissues but has an usual predilection for peripheral nerves. It is caused by Marek disease virus and is transmitted through contaminated premises, inhalation of contaminated dust, feathers, and mechanically by attendants. In the former it is characterized by enlargement of peripheral nerves and tumorous lesions at times while in the later there is lymphoid tumors in one or more organs or tissues. Clinical signs of classical form are progressive spastic paralysis of the wings and legs due to the involvement of brachial and sciatic nerves. Affected birds cannot stand and show a characteristic attitude with one leg stretched forward and the other held behind. If cervical nerve is involved, there is torticollis while vagal and intercostal nerves involvement leads to respiratory distress and when nerves of the intestine are

affected, you have impaction, diarrhoea and loss of weight. In acute form, sudden death without any sign or those dying late show similar symptoms to the classical form (Gordon 1977, Salsbury 1980, Randall 1985, Merck veterinary Manual 1991).

### 2.1.26 INFECTIOUS LARYNGO TRACHEATIS

This is a highly infectious acute or subacute or chronic viral disease of domestic fowl. It is caused by infectious laryngo tracheatis virus and transmitted through respiratory route, Conjuctiva, oral ingestion, contact with carries and mechanically by attendants. Clinical signs seen are unthriftiness, nasal and ocular discharge, coughing, gasping especially when excited, low egg production. During inspiration affected bird stretches it's neck and inspires with open beak and makes gasping movement. Blood and mucus may be expelled from the trachea (Salsbury 1962, Gordon 1977, Merck veterinary manual 1991).

### 2.1.27 INFECTIOUS BRONCHITIS

This is a highly infectious and contagious viral disease of domestic fowl. It is caused by infectious bronchitis virus. The disease is of great economic importance and is transmitted by drop- let infection from one bird to another in a flock and through air borne from flock to flock. In chicks, clinical signs seen are respiratory distress such as rales, gasping, sneezing, lacrimation, watery nasal discharge, birds hurdle together, ruffled feathers, dehydration, loss of condition, water intake rises markedly and affected birds, pass watery droppings. In adult laying birds, there is a marked drop in

egg production, eggs are rough shelled, mis- shapen and thin walled. Pullets exposed to the virus suffer permanent damage through their fallopian tubes and continue to lay misshapen eggs. (Salsbury 1962, Gordon 1977, Merck veterinary manual 1991).

## 2.1.28 COCCIDIOSIS

This is a protozoan disease of all domestic birds caused by members of the genus Eimeria. Caecal Coccidiosis is caused by **Eimeria tenella** while intestinal coccidiosis is caused by **Eimeria necatrix**. Both are transmitted by ingestion of the sporulated oocyst laid from infected birds. Clinical signs of caecal Coccidiosis in chicks are hurdling together which give the appearance of been chilled, they refuse to eat or drink and excessive bleeding which can be seen in their droppings. Mortality may exceed 50%. In intestinal coccidiosis, severity is lesser and signs seen include listlessness, drooping wings, humped back, dehydration due to diarrhoea, and rapid loss of weight (Salsbury 1962, Gordon 1977, Randall 1985, Merck veterinary manual 1991).

## 2.1.29 WORMS INFESTATION

These are internal parasites which causes reduction in the rate of growth of birds, lowers their egg production, and make them more susceptible to other infections. Worms that affect birds are roundworms (large roundworm) like **Ascaridia galli**, Caecal worm like **Heterakis gallinae**, capillary worms, gizzard worm, gapeworm.Tapeworm and flukes also parasitize birds.In general clinical signs are non-

over from the previous day. Clinical signs in chicks is seen in 3-4 weeks of brooding period and mortality could range between 10-50% and these include difficult breathing with gas ping, they show accelerated breathing through open beak, increased thirst, chicks feels sleepy and death within 24-48 hours. There is no rattling or gurgling, sound. In adults, the disease (Aspergillosis) is sporadic and signs seen is difficult breathing, bird is weak and feels a choking sensation (Gordon 1977, Merck veterinary. manual 1991).

### 2.1.32 AFLATOXICOSIS (MYCOTOXICOSIS)

This is called groundnut poisoning and is caused by the toxins of **Aspergillus Flavus** which is a fungus. It results when their feed is infected with mould when stored in damp places or when feed is not completely dried before storage. Chicks affected become lethargic, anorectic and show spasms of the neck muscles, death may occur with their legs stretched posteriorly in full extension (Gordon 1977, Merck Veterinary manual 1991).

### 2.1.33 HAEMMORHAGIC SYNDROME

This is a disease of uncertain origin with haemorrages occurring in muscle, skin and sometimes visceral organs. However, administration of sulfanamides particularly sulfaquinoxaline for long periods, vitamin K deficiency, toxins of **Aspergillus flavus** and allergic response are suspected as possible causes. Affected birds show ruffled

feathers, head and comb anaemic, decreased egg production and lower carcass quality (Salsbury 1962)

### 2.1.34 BLUECOMB DISEASE (PULLET DISEASE)

This is also a disease of unknown etiology although an unknown virus of variable virulence is incriminated. Clinical signs seen include cyanosis and wilting of comb and wattle, dehydration, crop is distended with foul smelling material, decrease in egg production. (Gordon 1977).

### 2.1.35 FATTY LIVER SYNDROME

This is a disease characterized by deposition of fats in liver and decrease in egg production. The disease occurs in chicks reared in cages while those reared on the floor do not suffer from it. This is because there is little exercise in the cages. It is suspected to be caused by either excessive caloric intake or stress of high egg production, or improved breeding for egg production. Clinical signs seen is drop in egg production from 80% to 50%, decrease in body weight and sudden death (Gordon 1977).

### 2.1.36 EGG BOUND CONDITION

It is a condition in which the passage of the oviduct is too small for the passage of egg. Hence, difficulty in passing egg. In this condition, the egg is lodged in the cloaca but can't be layed. It is possibly caused by abnormal size of the egg or

inflammation of the oviduct, or partial paralysis of the muscle of the oviduct wall. The egg can be felt in cloaca when palpated (Gordon 1977).

### 2.1.37 VENT GLEET (CLOACITIS)

It is a chronic inflammatory condition of cloaca giving a very offensive odour. A yellow diptheretic membrane may be formed on mucosal surface of vent. The inflammatory exudate contaminate the skin and feathers beneath the vent. (Gordon 1977, Merck veterinary manual 1991).

### 2.1.38 CAGED LAYER FATIQUE

This is seen when birds are kept in cages. It is characterized by inability of the bird to stand and there is marked fragility of the bones. The long bones are thin and may break even when slight pressure is applied. The ribs may show beading at the costo chondral joints. The condition is responsible for down grading of carcass and hence the economic loss (Gordon 1977, Randall 1985).

### 2.1.39 INTERNAL LAYING

This is a condition where layers lay soft shelled eggs in the peritoneal cavity ( Merck veterinary manual 1991).

## 2.1.40 CANNIBALISM

This is a tendency in birds to injury each other and is caused by either high stocking density, nutritional and mineral deficiency, starvation, insufficient feeding or drinking space. There are various types of cannibalism. This include vent pecking which is the severest form of cannibalism. In this case, the vent region and its surrounding area is injured by fellow birds with their beaks. The predisposing factor is prolapse or tearing of tissue by passage of abnormally large egg and once the area is injured, there is haemorrhage. The other birds taste the blood and they cause further injury to the bird. There may be continuous bleeding which could lead to the death of the bird. Feather pulling, head pecking, comb and wattle pecking are other cannibalistic vices. ( Salsbury 1962, Gordon 1977, Sainsbury 1980, Randall 1985, Merck Veterinary manual 1991).

# CHAPTER THREE

## 3.0 SYSTEM ANALYSIS AND DESIGN

### 3.1 THE EXISTING SYSTEM

The existing system in terms of the diagnosis, treatment and control of common poultry diseases in Nigeria is still largely manual. This means a poultry farmer whose stock is sick, will usually go to veterinary surgeon or animal health officer/supretendent to lodge complaint. Thereafter, the disease affecting the birds would be diagnosed and appropriate treatment and control measures given to him/her. This may sometimes involve a visit to the farm or a post-mortem examination carried out on some very sick or recently dead birds to verify the problem before the diagnosis, treatment and control measures are given. Thereafter, he will be required to report back his findings after instituting the prescribed treatment and control measures. A change in diagnosis could be made if the veterinary surgeon or animal health officer deem fit.

### 3.2 OBSERVATION ON THE EXISTING SYSTEM

Most veterinary surgeons are general practioners covering over fifteen (15) animal species viz cattle, camel, sheep, goat, pigs, cats, Rabbits, Horses, Donkeys, mules, Buffalo, poultry, Game animals, other wild animals etc and so the accuracy in the diagnosis of any disease in any particular specie may not be too accurate. This could lead to the prescription of the wrong treatment and eventual loss of the stock.

This can be catastrophic if the stock involved is larger or Bank loan was used to raise the stock.

It is for this reason that it is concluded that a new computerized system dedicated to the accurate diagnosis, treatment and control of common poultry diseases in Nigeria needs to be designed and implemented to take care of the above problem.

## 3.3 THE DESIGN OF THE PROPOSED SYSTEM

Having known the weakness of the existing system, the next stage is the logical design of the new system. It is designed in the form of an interactive mode. The new system will ask question/s just like a veterinary surgeon and expects the farmer's response/s. Based on the response from the farmer, it will make necessary judgements and come out with an accurate diagnosis, treatment and control of the disease.

## 3.4 DESCRIPTION OF SYSTEM PROCEDURES

The input data of this software is the user's response to the various questions that are asked by the program. When the response/s is/are received, diagnosis, treatment and control measures are displayed to the user depending on his/she further response, the user can go over the diagnosis, treatment and control measures or the entire software until he/she is satisfied. The system procedure for this processing is described in appendix 1.

## 3.5 SYSTEM REQUIREMENT

The system requirement has to do with the computer configuration needed for the new system. A computer configuration is collection of hardware which forms a complete computer system. The selection of the computer configuration is done to suit both the current and future needs.

With this new system, a computer with or without a hard disk could be used. The software is less than 1MB and so even a floppy 1.44MB formatted 3.5 inches diskette can contain it. If however, a 5.25 inches floppy diskette is to be used, then you will need about 3 if they are single sided single density or about 2 if double sided double density. However, the RAM capacity is important for the software to run. It needs a minimum of 640 KB RAM capacity. For fast results, a computer with a speed of about 40MHZ is needed. If a hard disk is available, the software could be down loaded to it.

## 3.6 SYSTEM TESTING

This involves the use of test data on the new system in order to ensure that the system works accurately and efficiently before live operation commences. At this stage, the logical design and the physical design are thoroughly examined to ensure it's workability. Therefore, the confirmation that all is correct and an opportunity to show the user that the system works as required.

However, the new system has been tested using some test data on all the modules of the system. At the end of the test, it was confirmed that it worked well and efficiently.

## 3.7 SYSTEM CONVERSION

Since it is now known that the new system is working well and efficiently, there is need to carry out file conversion and changeover. This is done to aid in the transformation of the existing system to the newly developed one.

System conversion is completed when the actual changeover from the old to the new takes place,. Hence, changeover is the stage of moving over from the old system to the newly developed one. This can be achieved in a number of ways viz direct changeover, parallel running, pilot running and staged running.

Parallel running is chosen for this system. This implies diagnosing your poultry disease through both the manual and the computer based system until such a time when the user is satisfied with the results of the new system. The main attraction of the parallel running is that the old system is kept alive and operational until the new system has been proved for at least one system cycle using live data in the real operational environment of place, people, equipment and time. It also gives an opportunity of comparing the results of the new system with the existing one before acceptance by the user, thereby promoting user's confidence.

# CHAPTER FOUR

## 4.0 SYSTEM DOCUMENTATION

### 4.1 PHYSICAL DESIGN OF THE SYSTEM

This section deals with the physical construction of the logical design. It has to do with program specification for output, input and processing into computer software. The designing of the computer software is important to ensure that the actual programs produced perform all tasks as intended and to allow for future modification to be performed in an efficient manner and with a minimum destruction to the design of the system. Therefore, the documentation of the program specification are specified in the appendix 2.

### 4.2 OUTPUT SPECIFICATION

Output refers to the result and information that are generated by a system. The output from a computer system are required primarily to communicate the results of processing to users. The output of the proposed system is designed just to display the diagnosis, treatment and control measures of the disease identified on the computer screen. Example is shown in outputs 1-10.

### 4.3 INPUT SPECIFICATION

Input refers to the mode of entering data into a system. It serves as the point of contact between the user and system. The input is designed to be interactive.

This is done through dialoging with on-line system in which the complex system prompts for an entry in form of a question. During entry, an assistance is displayed to allow the user know the type of data to key in to avoid entering the wrong type of data. Example is shown in output 2,3,5,6,9 and 10.

## 4.4 THE PROPOSED SYSTEM

The new system during running will display an introductory notes to the user (output 1) and prompt you to press the enter key to continue. On pressing it, the next screen displays a batch of clinical signs and ask you if it corresponds with those been exhibited by your sick birds (output 2). On entering "y", further question/s could be asked (output 3) or a diagnosis could be made instantly .On entering "N" however, another batch of clinical signs is displayed until your disease is diagnosed. When diagnosis is made, the next screen will display the treatment (output 7) and control measures (output 8). You will then be asked if you want to go over the diagnosis, treatment and control measures again. On entering "Y",you will be allowed to go over diagnosis,treatment and control measures again.Contrary choice by the user takes you to the main program where you can continue running the software or quit depending on your choice. Examples are shown in output 9 and 10.

## 4.5 POST IMPLEMENTATION REVIEW

After the system is implemented and conversion is completed, provision needs to be made for a review of the system. This is to allow for maintenance of the system against enviromental changes which may affect either the computer or other parts of

computer based system. This may lead to the improvement of system function and the creation of faults which arise during the operation of a system.

The objectives of post-implementation review include among others:

(i) Determine whether the system goals and objectives have been achieved.

(ii) Determine whether personnel procedures operating activities, and order control have been improved.

(iii) Determine whether user service requirements have been met, while simultaneously reducing errors and costs.

(iv) Determine whether known or un-expected limitation of the system need attention.

The users are expected to identify any problem areas or external requirement of the system. Based on this, the system will further be designed to meet the requirement.

# CHAPTER FIVE

# 5.0 RECOMMENDATION AND CONCLUSION

## 5.1 RECOMMENDATION

Having seen the benefits of the newly designed system, it is highly recommended that the hardware requirement for this new system which is just getting a computer system from 286 processor and above, with or without a hard disk and a RAM capacity of at least 640kB should be provided by the farmer. This will allow for system conversion within at most a year. Training of poultry farmers is not too necessary as it is simple to use and instructions on usage is provided in the system.

Finally this software is recommended to all poultry farmers in Nigeria since it has been tested and found efficient at least for the common poultry diseases in Nigeria.

## 5.2 CONCLUSION

Manual operations are nowadays being substituted with computer based programs globally in all aspects of human endeavour. This is because computers have the ability to perform a given set of instructions with all the necessary accuracy and extremely fast with no any error, thus making it's need in most establishments inevitable.

However, it could be agreed that a computer based procedure needs to be designed in a way to achieve the benefit of computer usage in terms of speed, full

automation of procedures, avoid constant problems and ensure data security etc. It is based on this need that a new designed computerized expert system on the diagnosis treatment and control of common poultry diseases is recommended for poultry farmers.

Specifically, a poultry farmer who has a computer and this software installed in his system, stands to benefit from this newly designed system for the following reasons:

(i) The common poultry disease in Nigeria are accurately diagnosed provided the system's questions are answered correctly and so you sure of getting rid of your disease problem to enhance optimal productivity with little cost.

(ii) The farmer pays nothing in terms of consultancy except for the purchase of the software.

(iii) Saves the farmer's time spent looking for veterinary attention.

# REFERENCES


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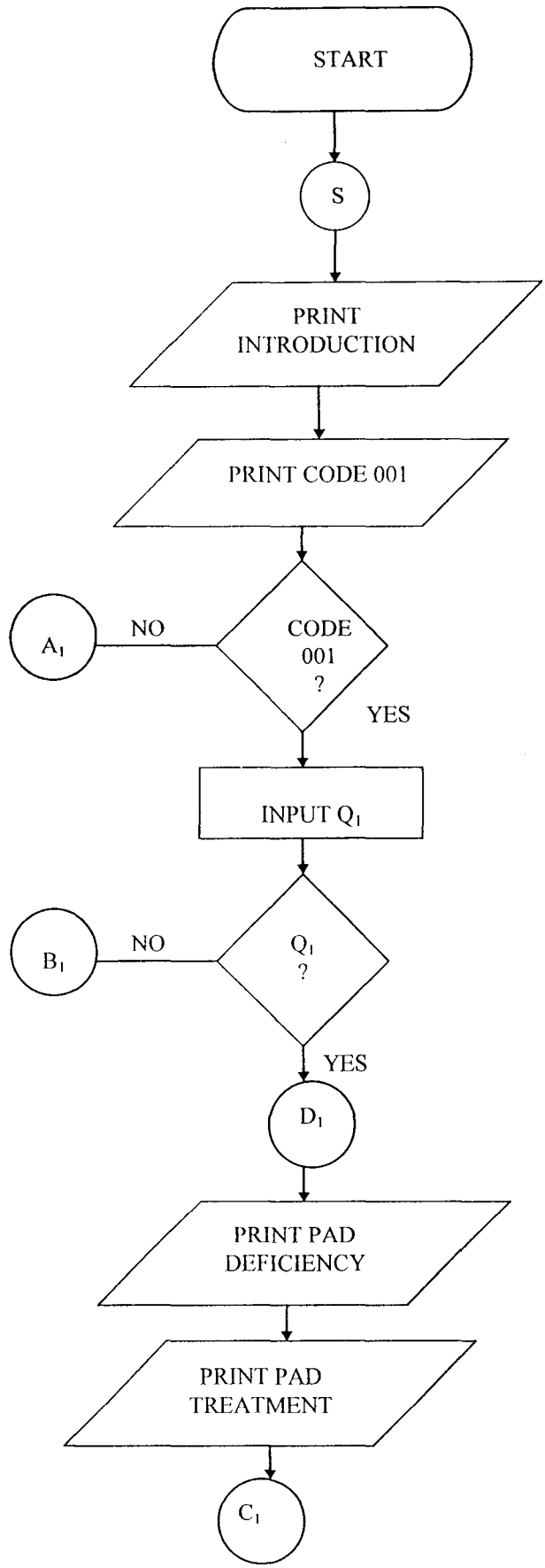
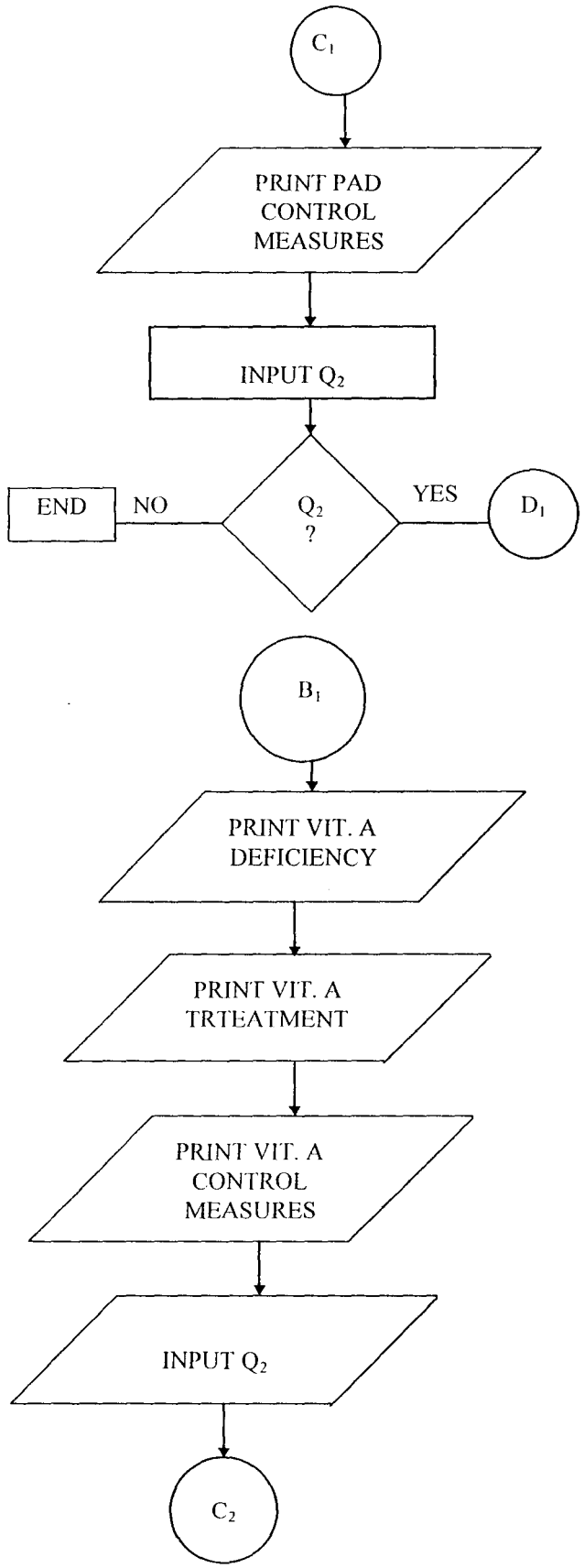
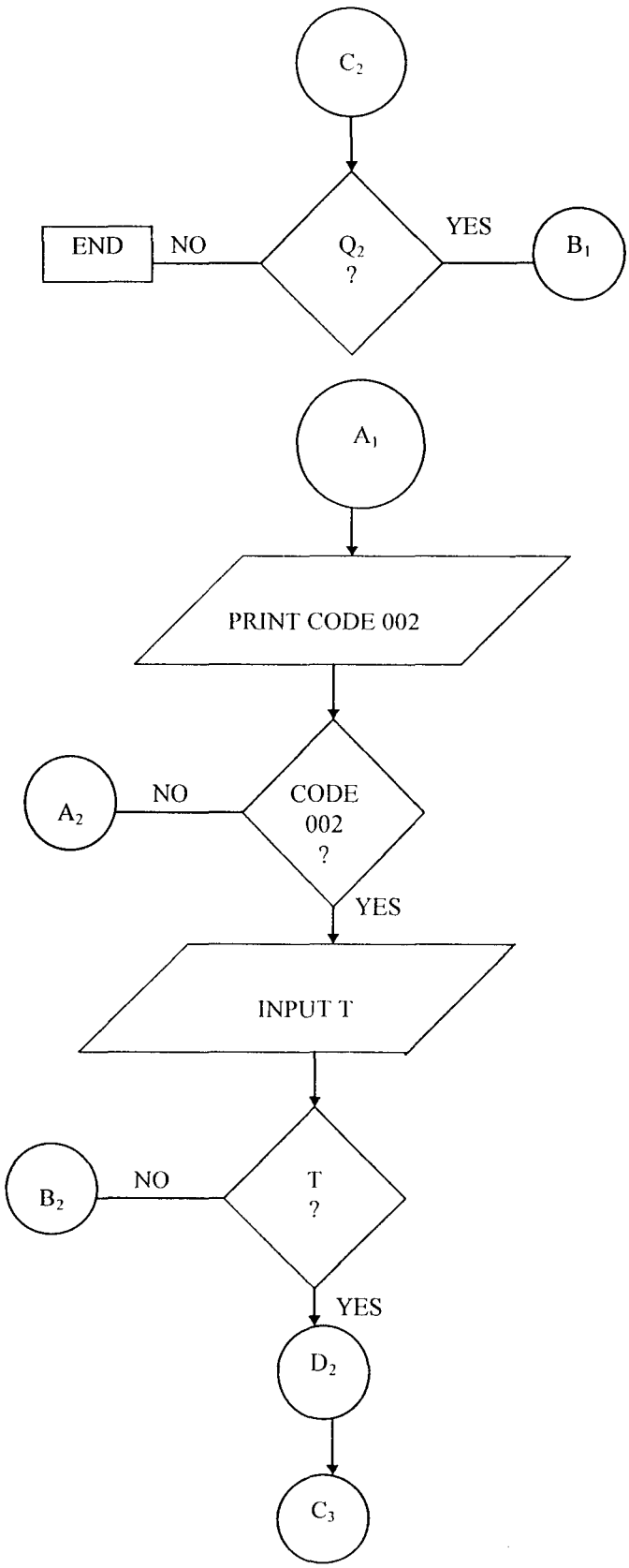
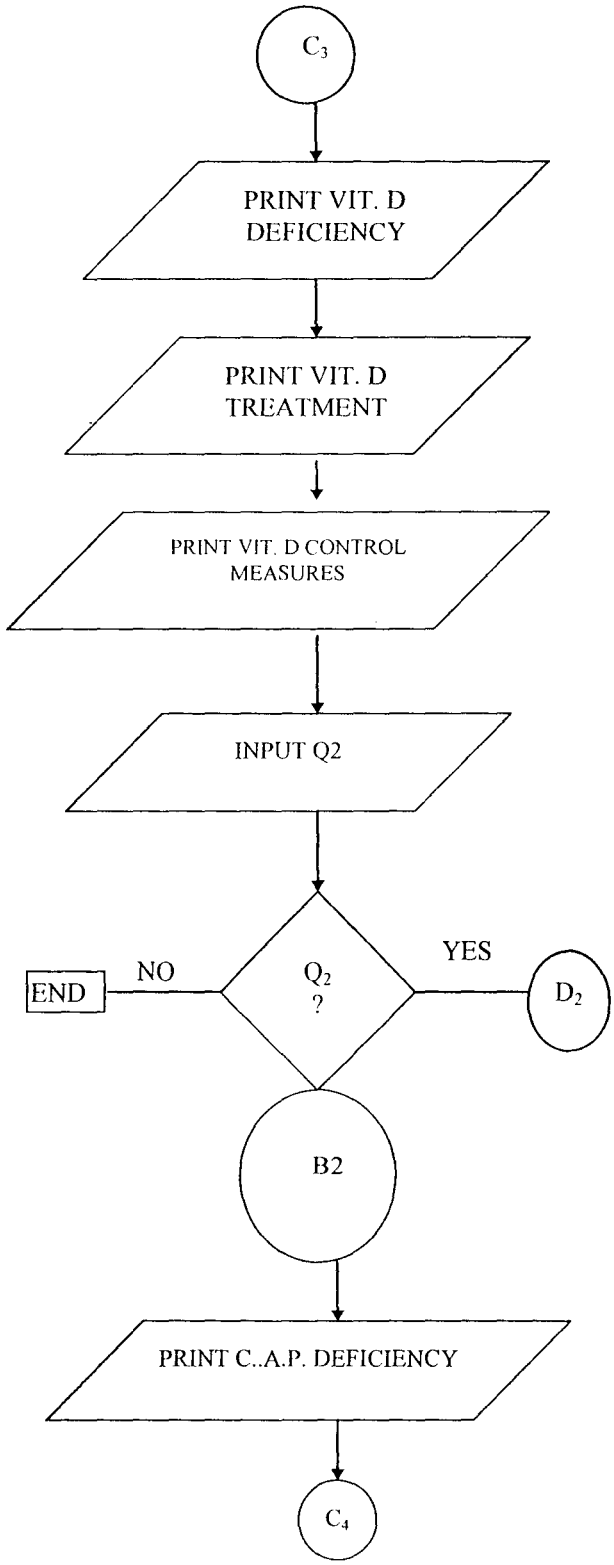
12. Salsbury's manual of poultry diseases (1962). Dr Salbury's laboratories U.S.A.

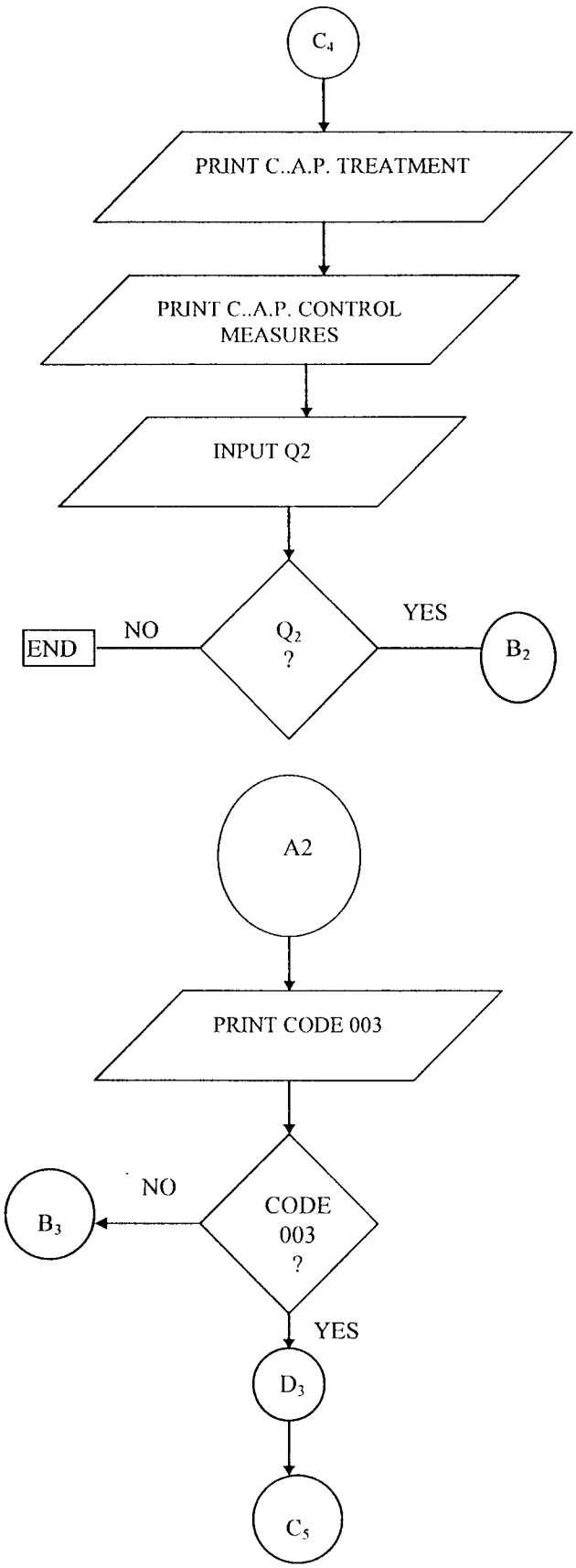
# APPENDIX I (SYSTEM FLOW CHART)

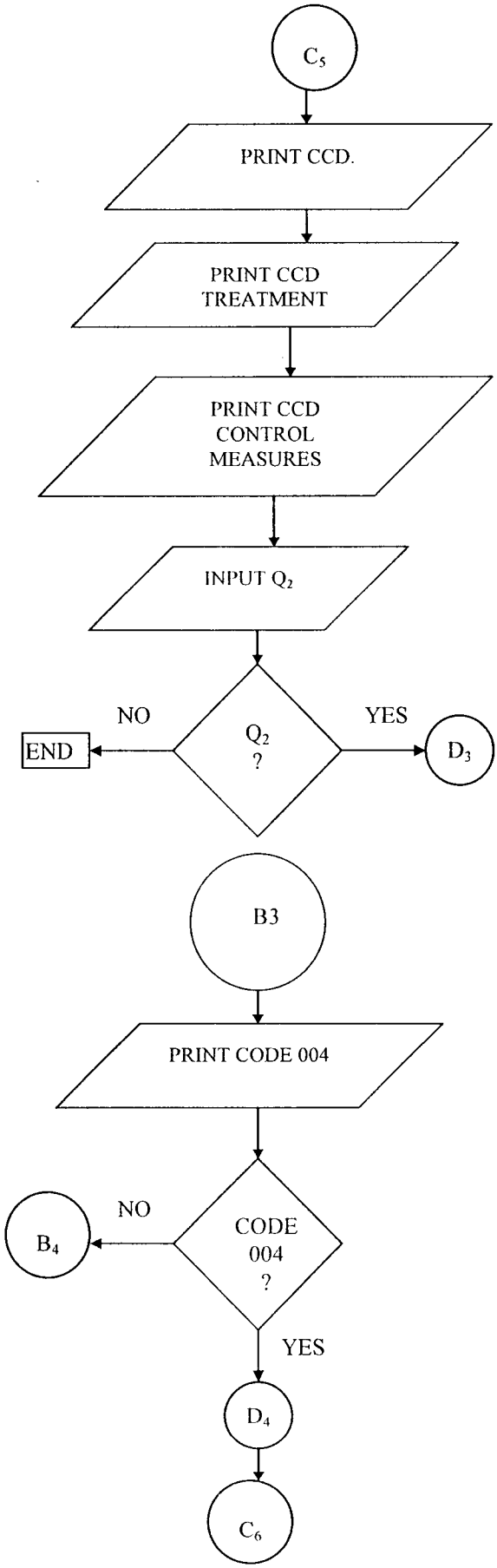


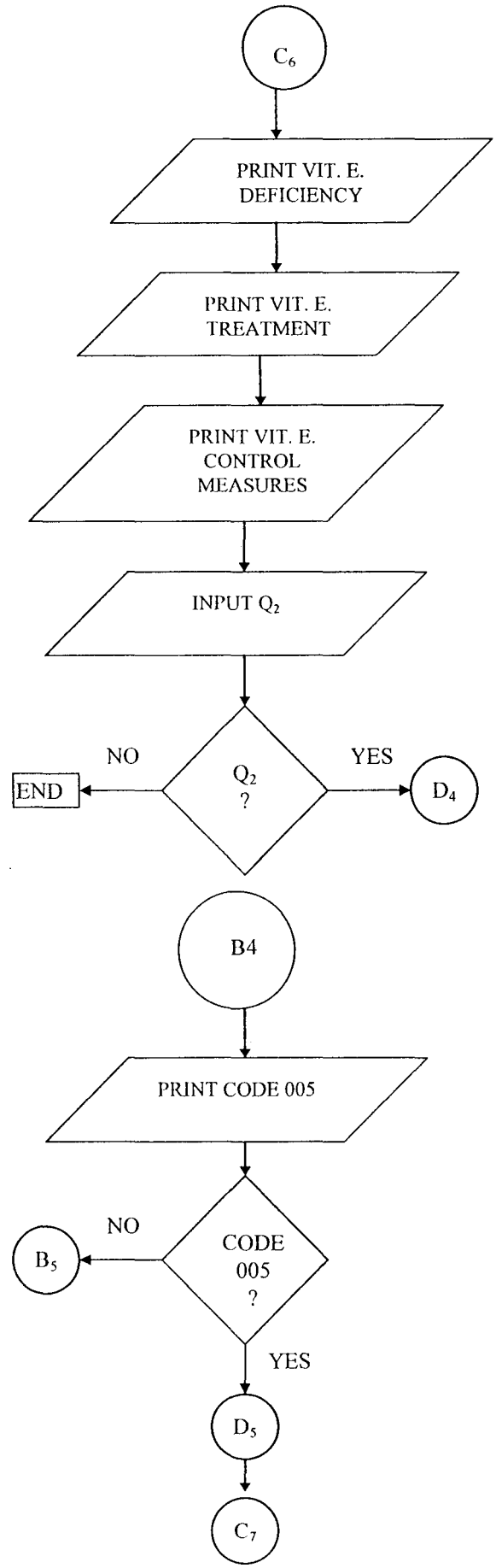

C1
PRINT PAD CONTROL MEASURES
INPUT Q2
END
NO
Q2 ?
YES
D1
B1
PRINT VIT. A DEFICIENCY
PRINT VIT. A TRTEATMENT
PRINT VIT. A CONTROL MEASURES
INPUT Q2
C2

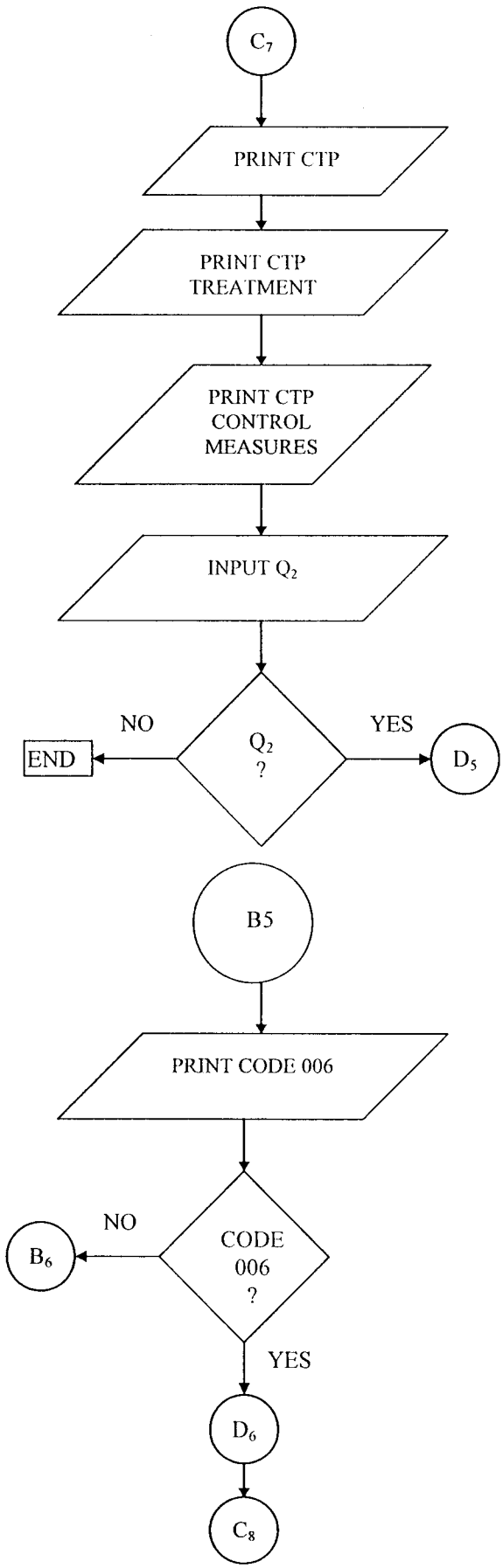

C2
END
NO
Q2
?
YES
B1
A1
PRINT CODE 002
A2
NO
CODE
002
?
YES
INPUT T
B2
NO
T
?
YES
D2
C3

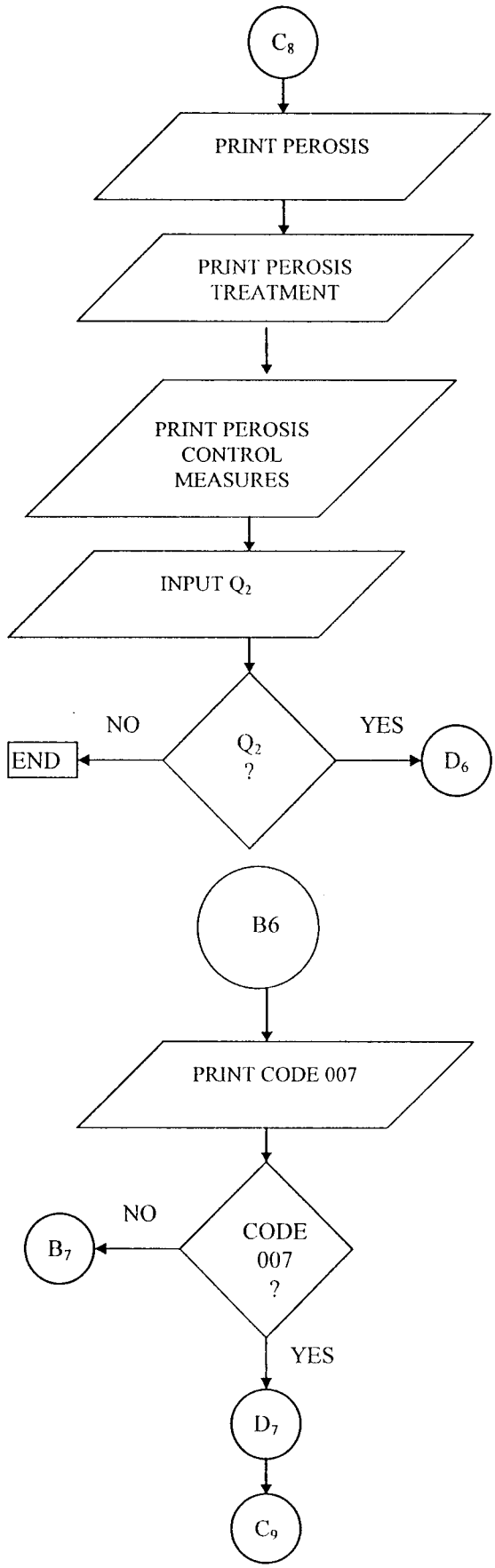

C3
PRINT VIT. D DEFICIENCY
PRINT VIT. D TREATMENT
PRINT VIT. D CONTROL MEASURES
INPUT Q2
Q2 ?
NO
END
YES
D2
B2
PRINT C..A.P. DEFICIENCY
C4

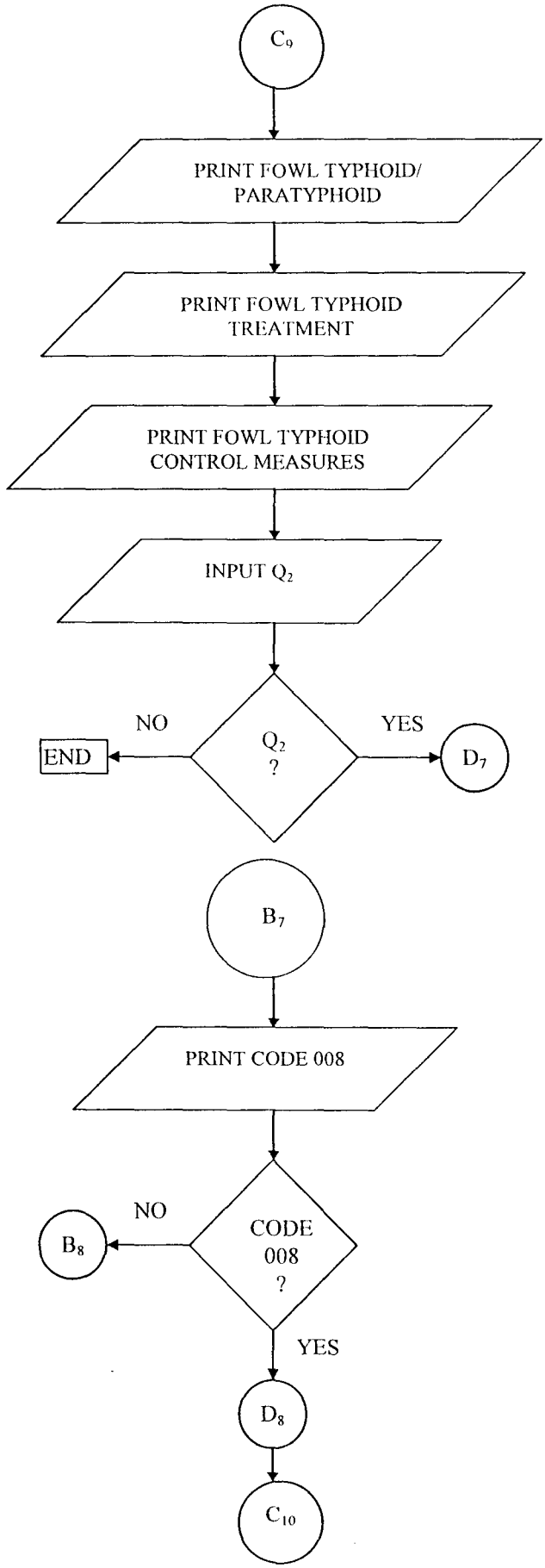

C4
PRINT C..A.P. TREATMENT
PRINT C..A.P. CONTROL MEASURES
INPUT Q2
Q2 ?
NO
END
YES
B2
A2
PRINT CODE 003
CODE 003 ?
NO
B3
YES
D3
C5

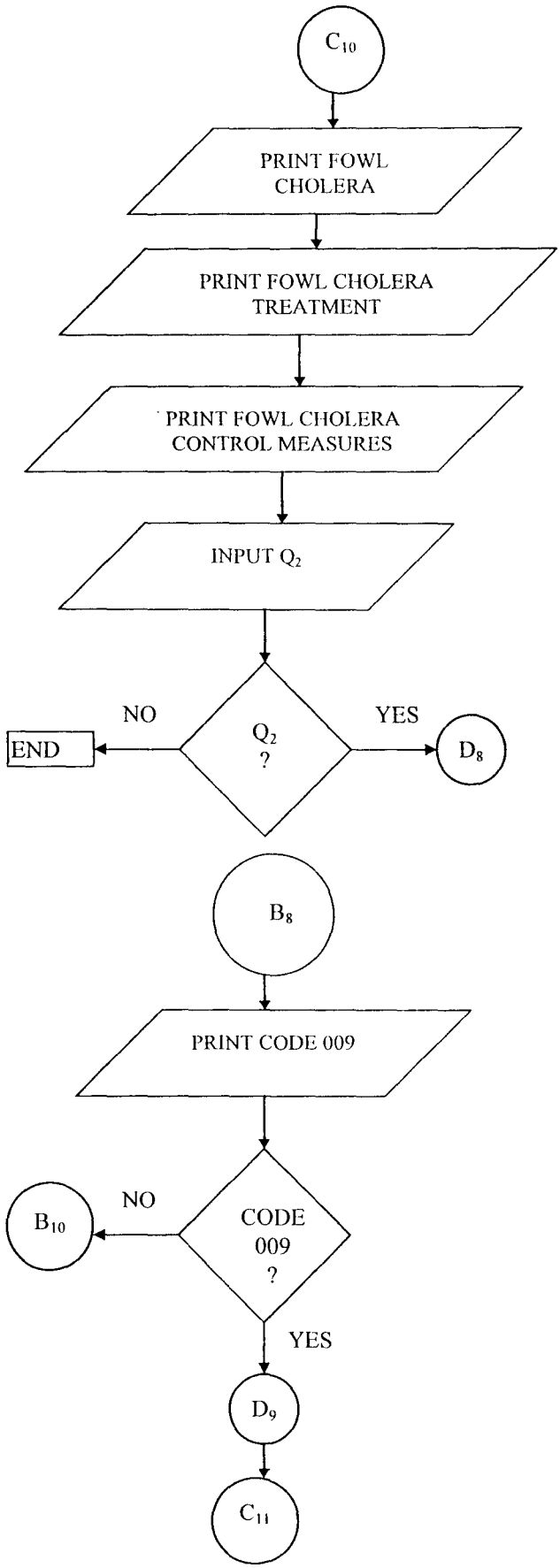

C5
PRINT CCD.
PRINT CCD TREATMENT
PRINT CCD CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D3
B3
PRINT CODE 004
NO
CODE 004 ?
B4
YES
D4
C6

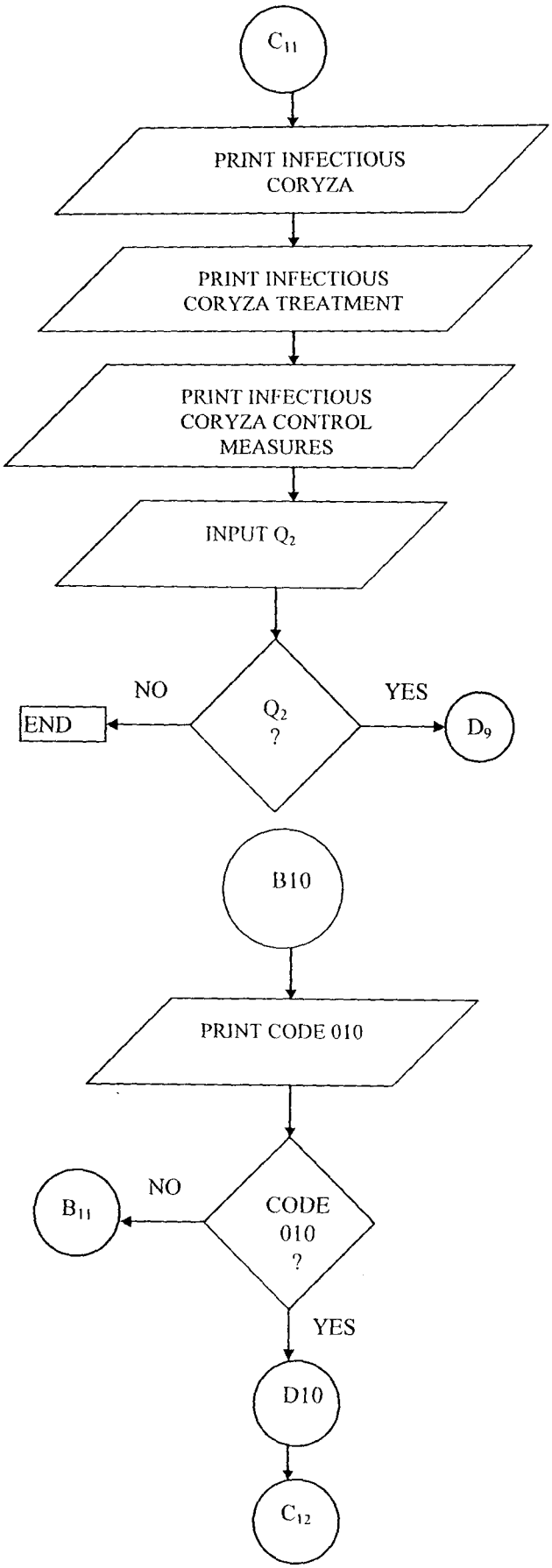

C6
PRINT VIT. E. DEFICIENCY
PRINT VIT. E. TREATMENT
PRINT VIT. E. CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D4
B4
PRINT CODE 005
NO
CODE 005 ?
B5
YES
D5
C7

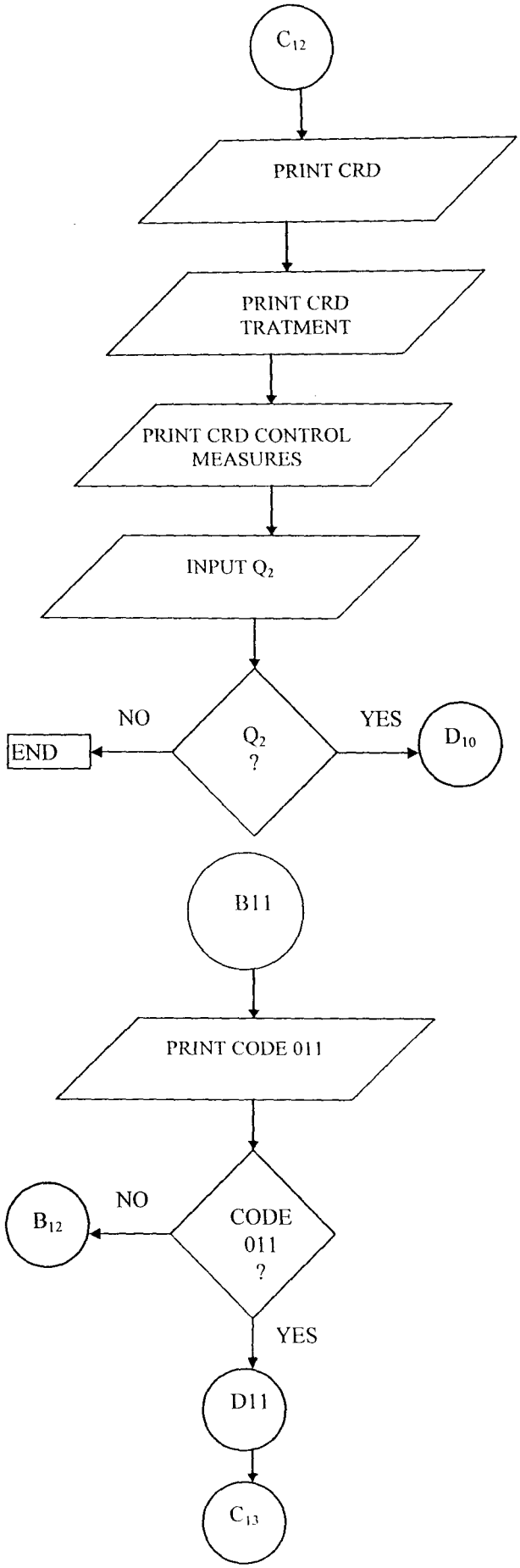

C7
PRINT CTP
PRINT CTP TREATMENT
PRINT CTP CONTROL MEASURES
INPUT Q2
NO
YES
END
Q2 ?
D5
B5
PRINT CODE 006
NO
B6
CODE 006 ?
YES
D6
C8

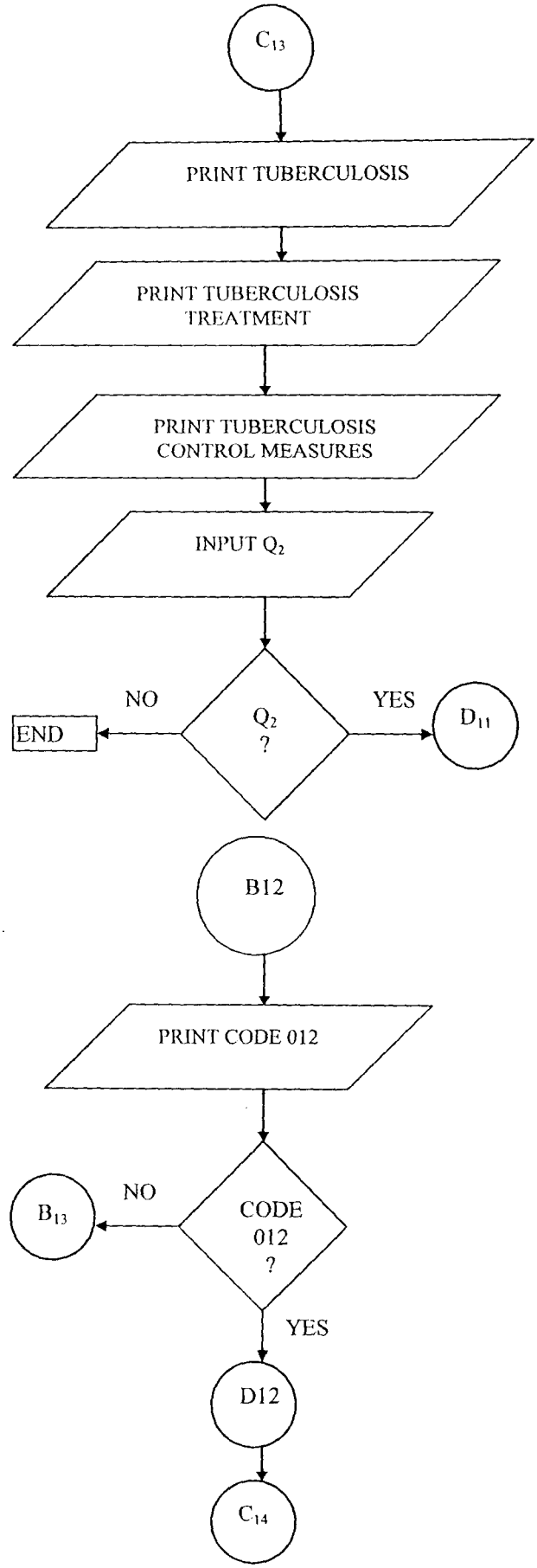

C8
PRINT PEROSIS
PRINT PEROSIS TREATMENT
PRINT PEROSIS CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D6
B6
PRINT CODE 007
NO
CODE 007 ?
B7
YES
D7
C9

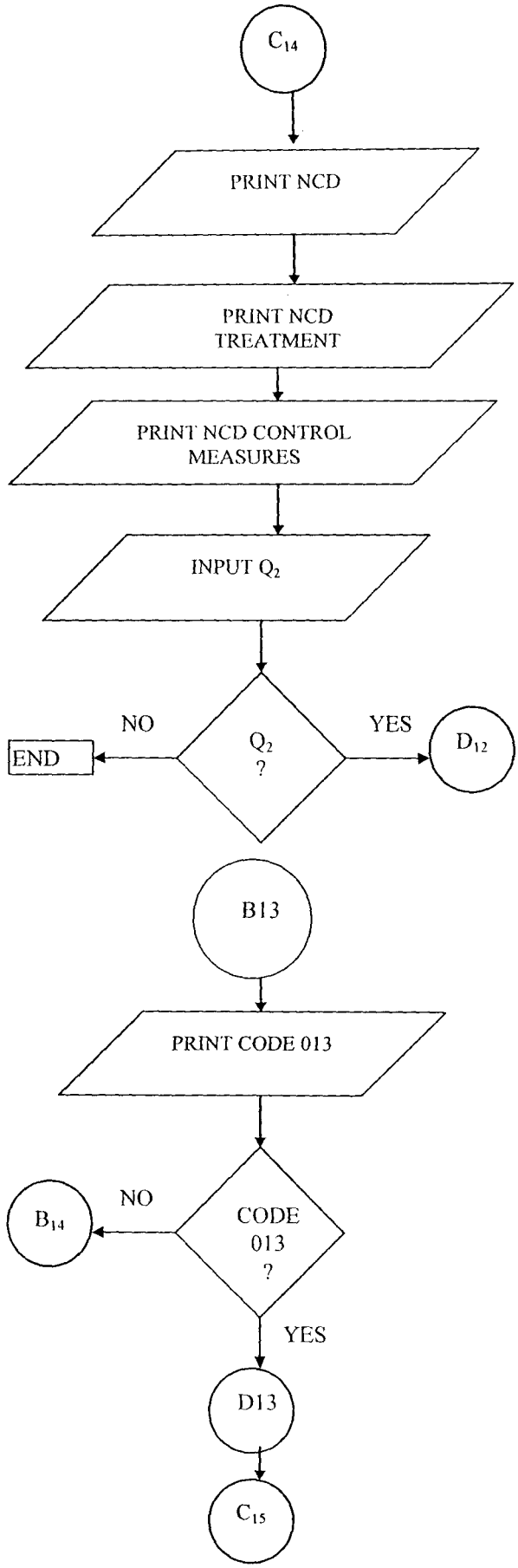

C9
PRINT FOWL TYPHOID/ PARATYPHOID
PRINT FOWL TYPHOID TREATMENT
PRINT FOWL TYPHOID CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D7
B7
PRINT CODE 008
NO
CODE 008 ?
B8
YES
D8
C10

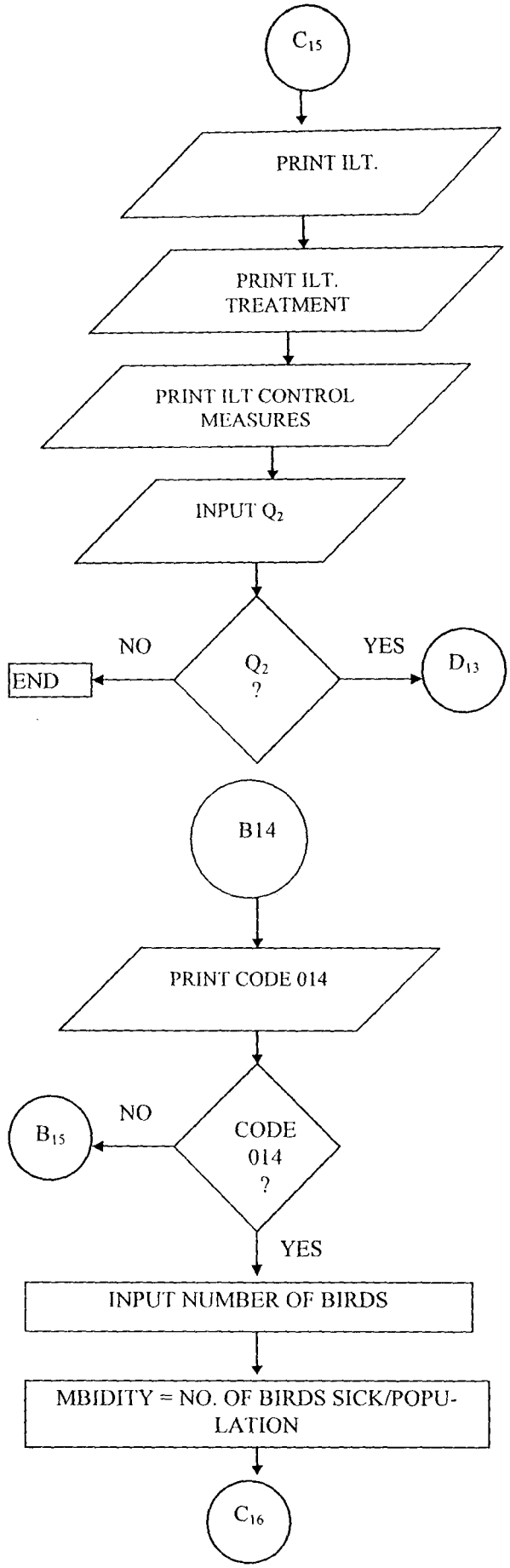

C10
PRINT FOWL CHOLERA
PRINT FOWL CHOLERA TREATMENT
PRINT FOWL CHOLERA CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D8
B8
PRINT CODE 009
B10
NO
CODE 009 ?
YES
D9
C11

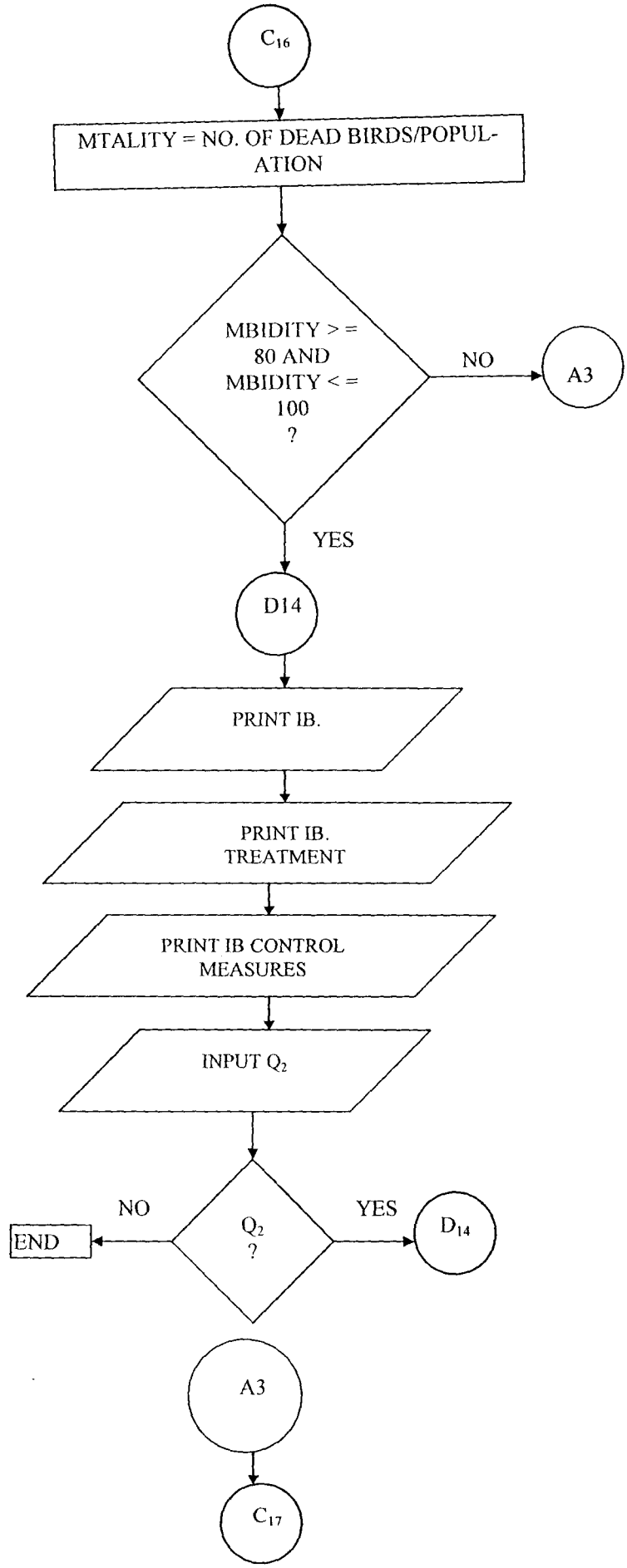

C11
PRINT INFECTIOUS CORYZA
PRINT INFECTIOUS CORYZA TREATMENT
PRINT INFECTIOUS CORYZA CONTROL MEASURES
INPUT Q2
NO
YES
END
Q2 ?
D9
B10
PRINT CODE 010
NO
B11
CODE 010 ?
YES
D10
C12

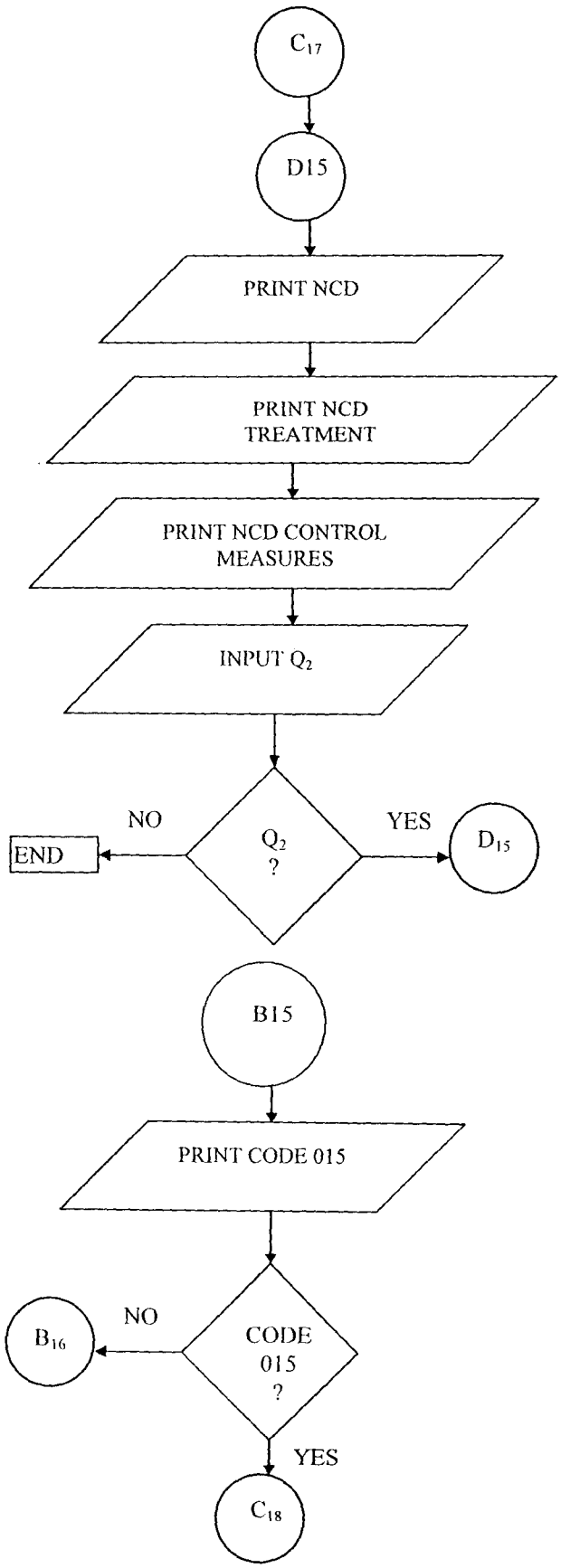

C12
PRINT CRD
PRINT CRD TRATMENT
PRINT CRD CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D10
B11
PRINT CODE 011
NO
B12
CODE 011 ?
YES
D11
C13

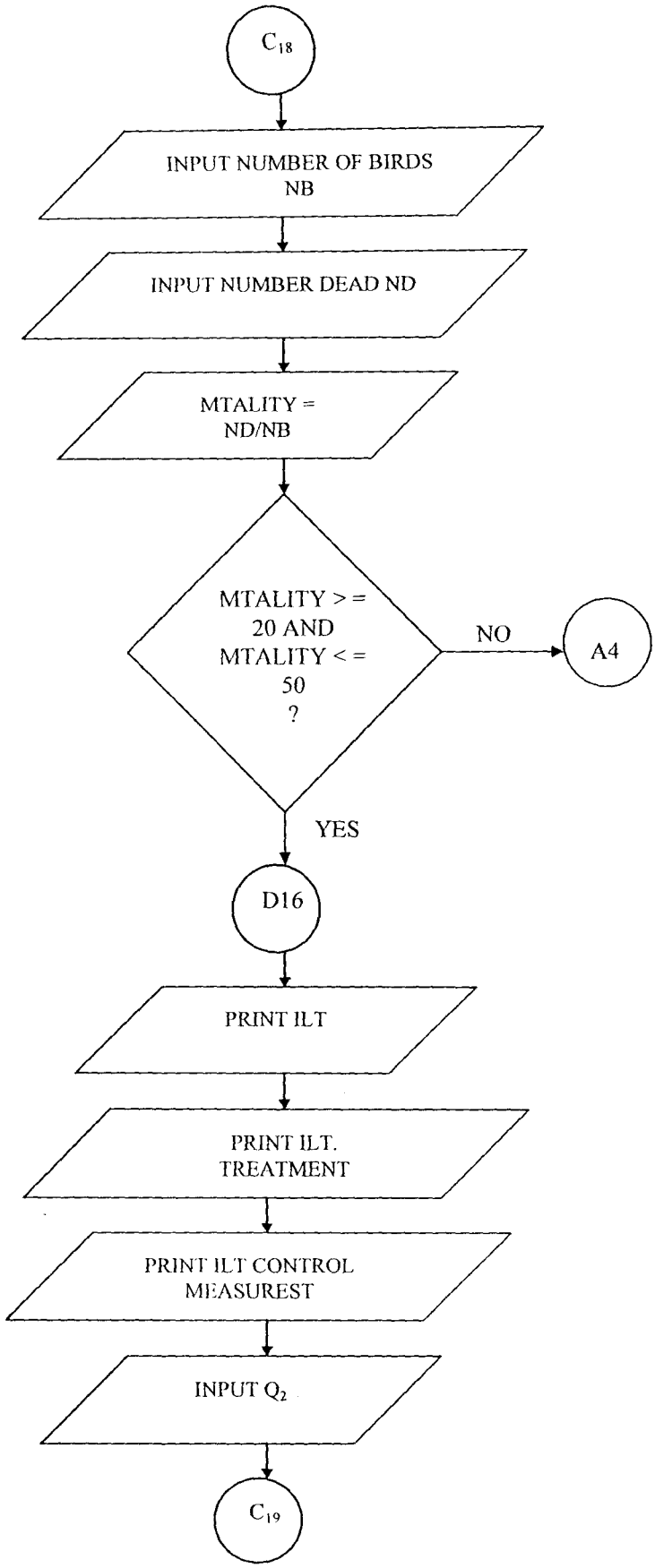

C13
PRINT TUBERCULOSIS
PRINT TUBERCULOSIS TREATMENT
PRINT TUBERCULOSIS CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D11
B12
PRINT CODE 012
NO
CODE 012 ?
B13
YES
D12
C14

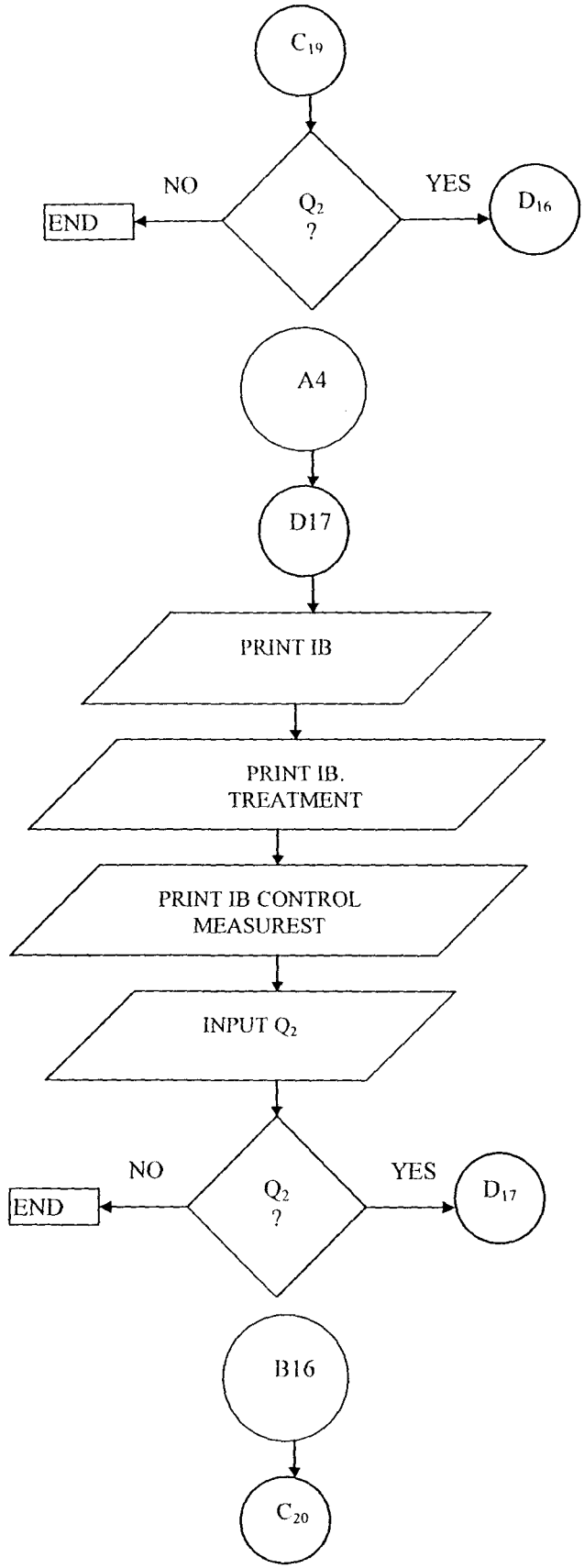

C14
PRINT NCD
PRINT NCD TREATMENT
PRINT NCD CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D12
B13
PRINT CODE 013
NO
B14
CODE 013 ?
YES
D13
C15

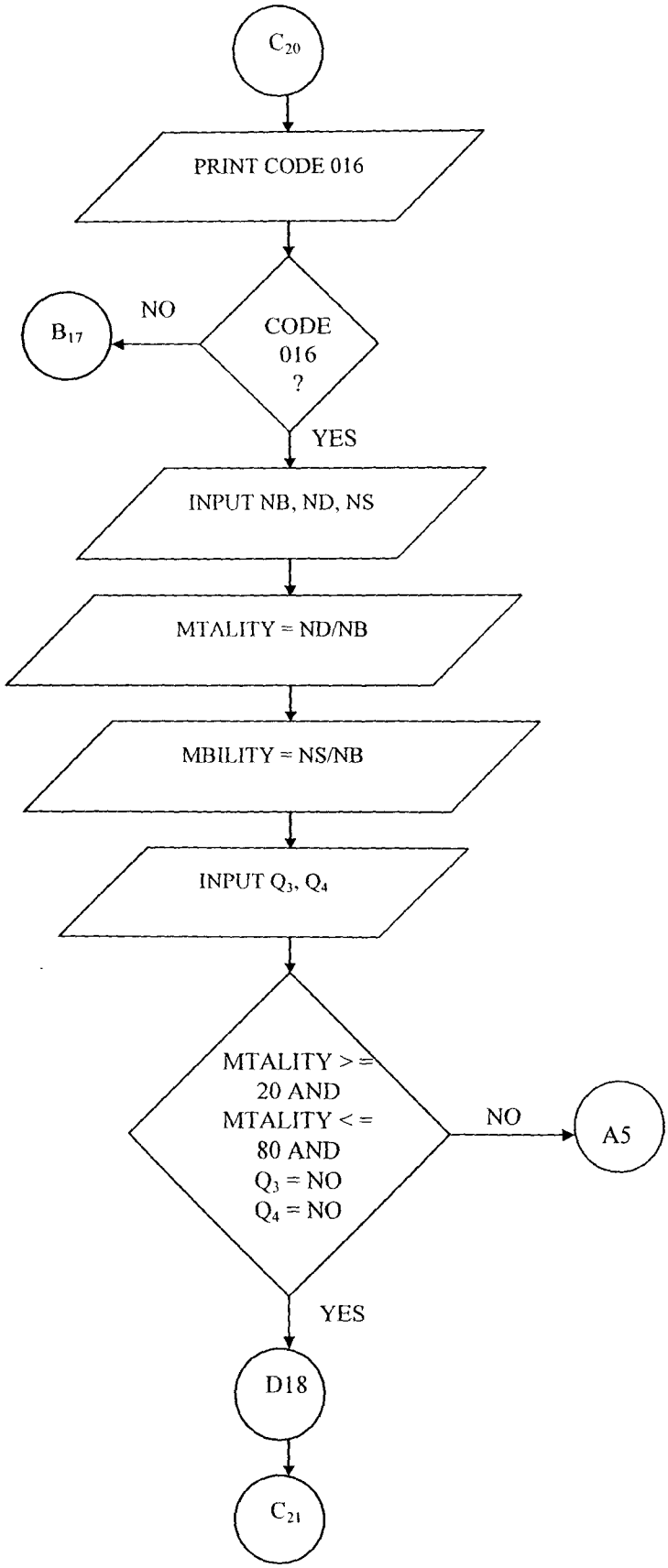

C15
PRINT ILT.
PRINT ILT. TREATMENT
PRINT ILT CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D13
B14
PRINT CODE 014
B15
NO
CODE 014 ?
YES
INPUT NUMBER OF BIRDS
MBIDITY = NO. OF BIRDS SICK/POPU-LATION
C16

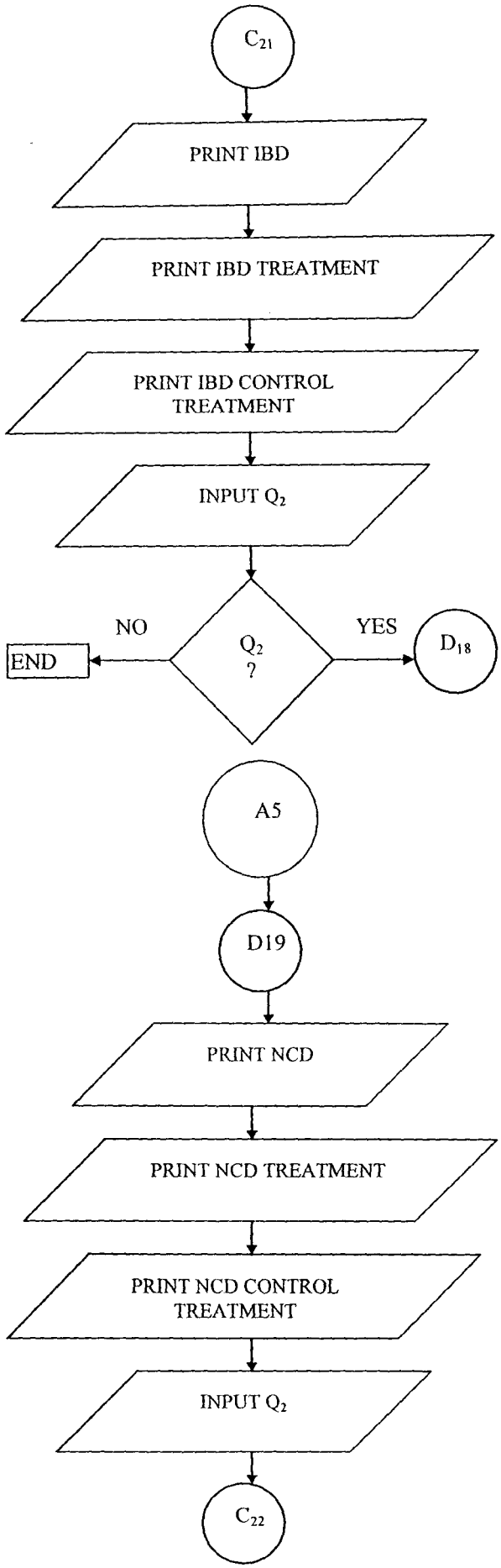

C16
MTALITY = NO. OF DEAD BIRDS/POPUL-ATION
MBIDITY > = 80 AND MBIDITY < = 100 ?
NO
A3
YES
D14
PRINT IB.
PRINT IB. TREATMENT
PRINT IB CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
D14
END
A3
C17

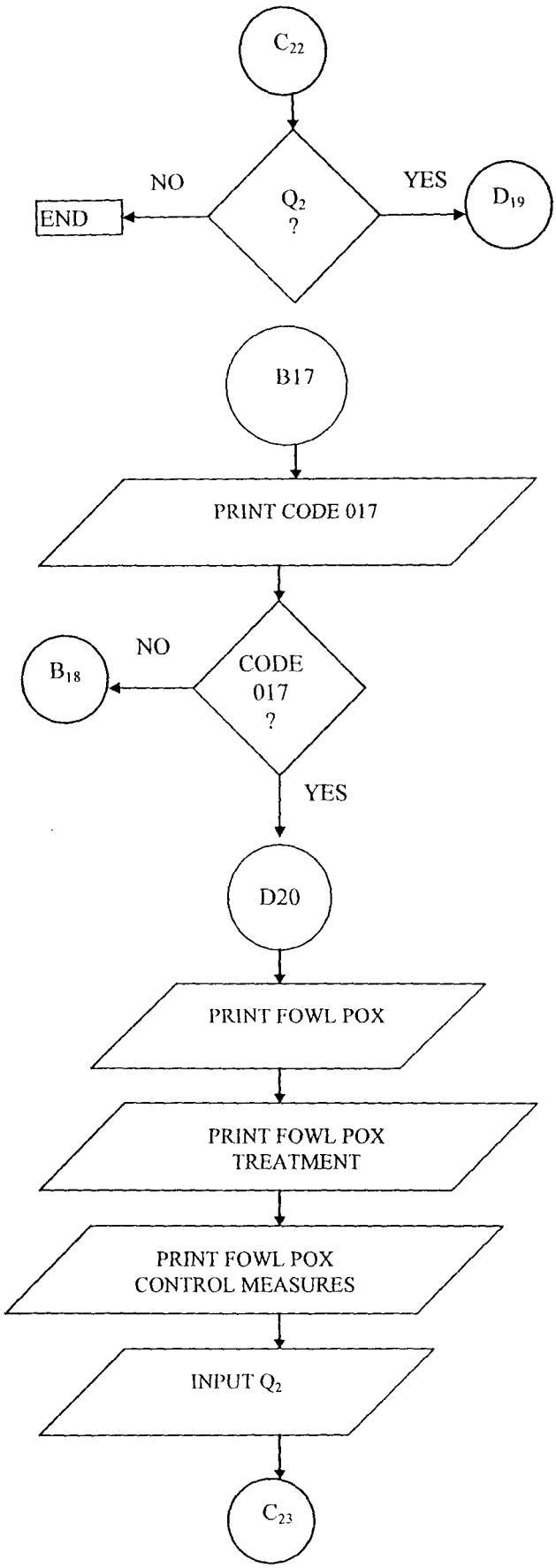

C17
D15
PRINT NCD
PRINT NCD TREATMENT
PRINT NCD CONTROL MEASURES
INPUT Q2
NO
Q2 ?
YES
END
D15
B15
PRINT CODE 015
NO
CODE 015 ?
B16
YES
C18

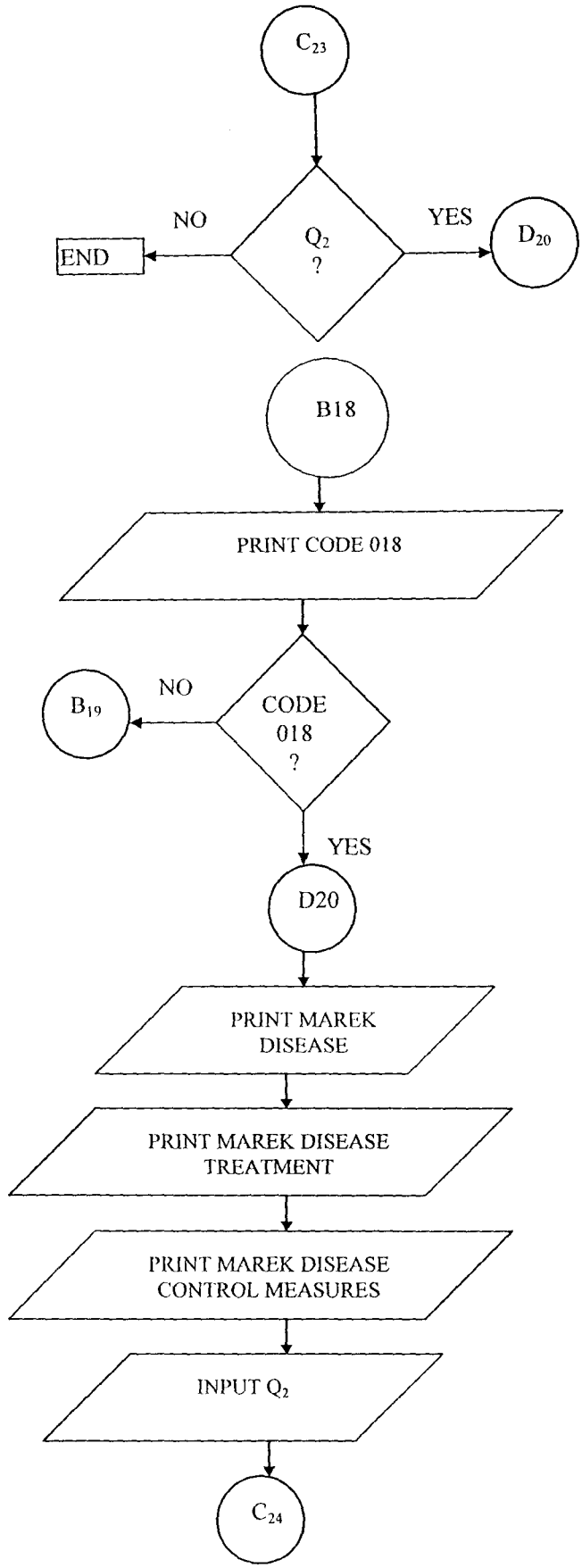

C18
INPUT NUMBER OF BIRDS
NB
INPUT NUMBER DEAD ND
MTALITY =
ND/NB
MTALITY > =
20 AND
MTALITY < =
50
?
NO
A4
YES
D16
PRINT ILT
PRINT ILT.
TREATMENT
PRINT ILT CONTROL
MEASUREST
INPUT Q2
C19

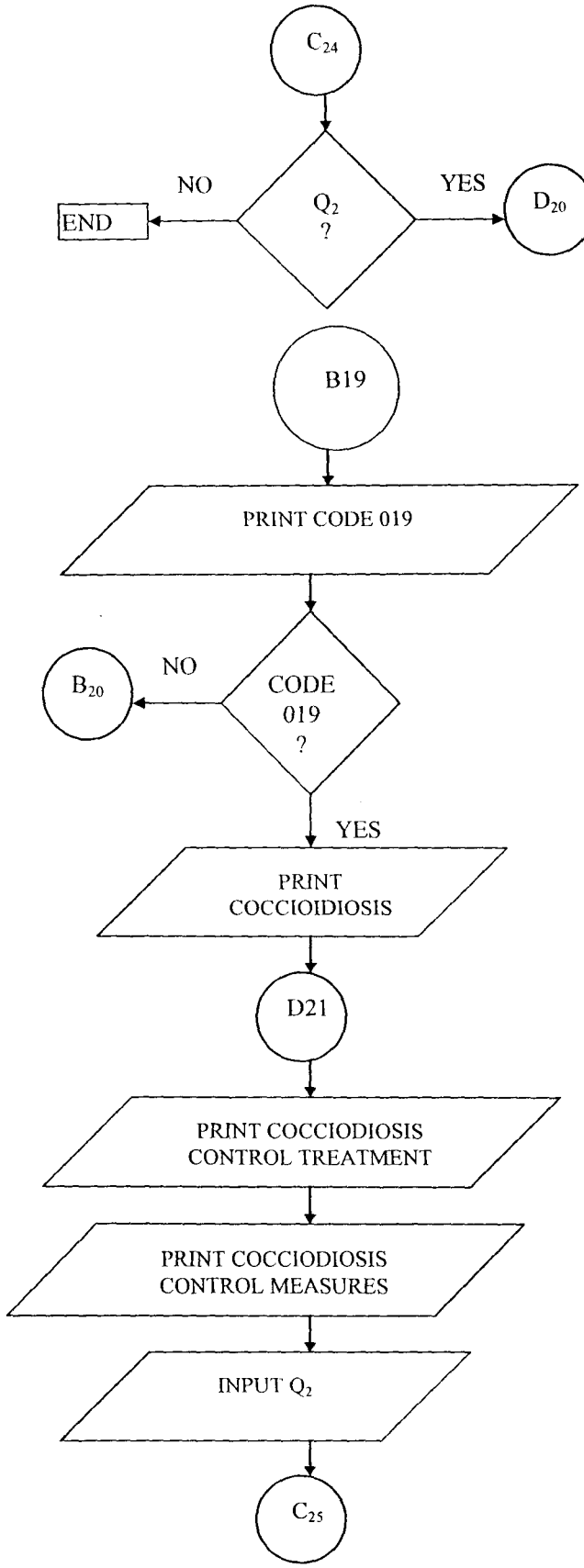

C19
NO
Q2
?
YES
D16
END
A4
D17
PRINT IB
PRINT IB.
TREATMENT
PRINT IB CONTROL
MEASUREST
INPUT Q2
NO
Q2
?
YES
D17
END
B16
C20

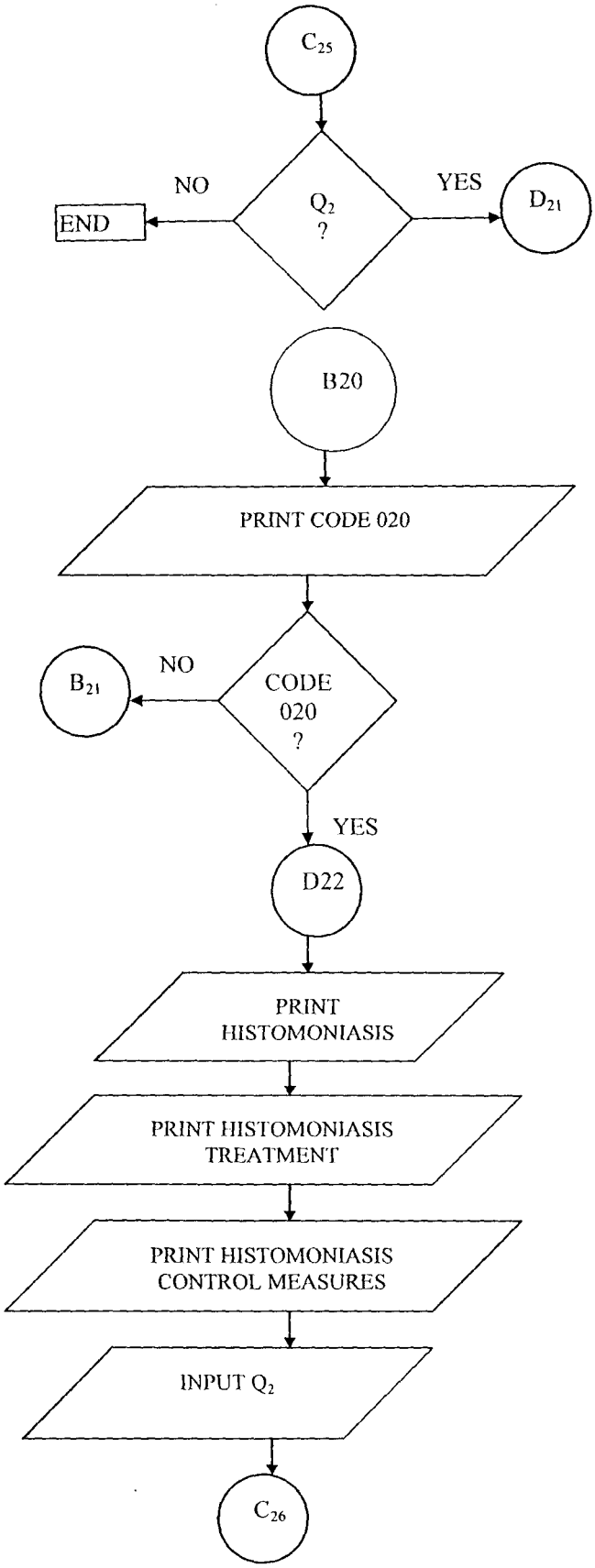

C20
PRINT CODE 016
CODE 016 ?
NO
B17
YES
INPUT NB, ND, NS
MTALITY = ND/NB
MBILITY = NS/NB
INPUT Q3, Q4
MTALITY > = 20 AND MTALITY < = 80 AND Q3 = NO Q4 = NO
NO
A5
YES
D18
C21

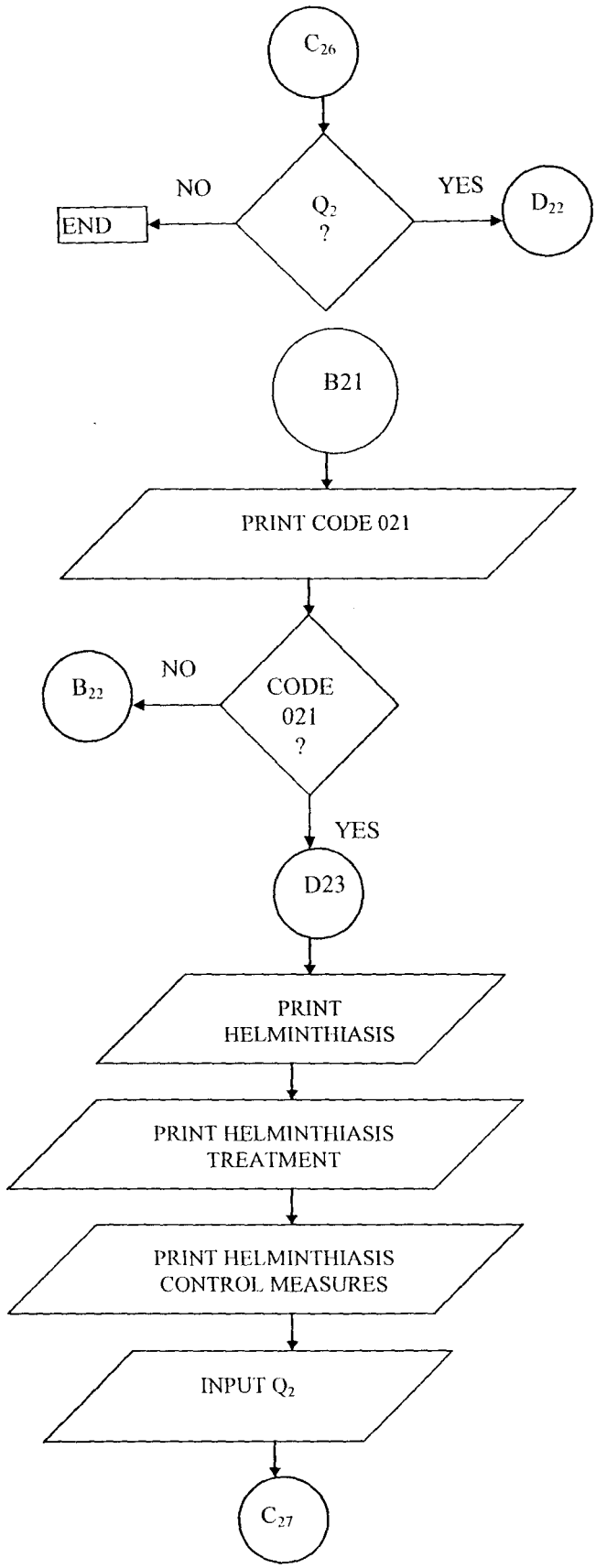

C21
PRINT IBD
PRINT IBD TREATMENT
PRINT IBD CONTROL TREATMENT
INPUT Q2
NO
Q2 ?
YES
D18
END
A5
D19
PRINT NCD
PRINT NCD TREATMENT
PRINT NCD CONTROL TREATMENT
INPUT Q2
C22

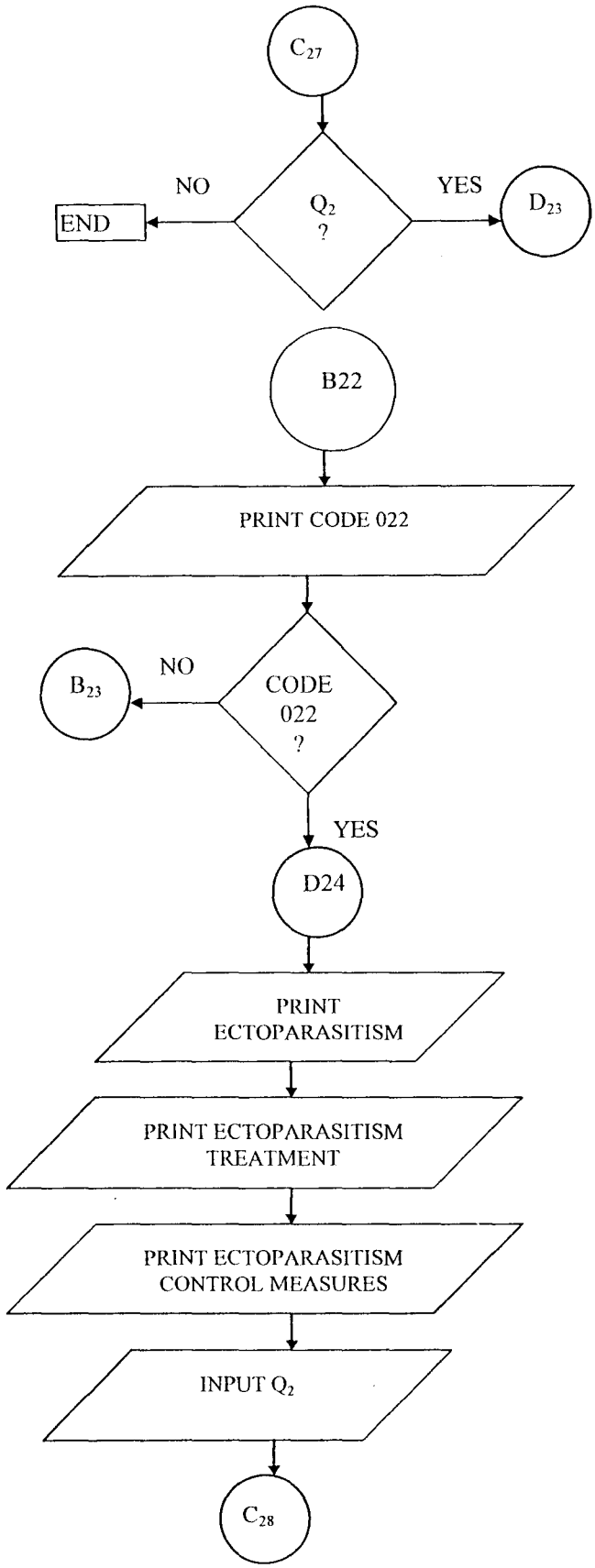

C22
Q2 ?
NO
END
YES
D19
B17
PRINT CODE 017
CODE 017 ?
NO
B18
YES
D20
PRINT FOWL POX
PRINT FOWL POX TREATMENT
PRINT FOWL POX CONTROL MEASURES
INPUT Q2
C23

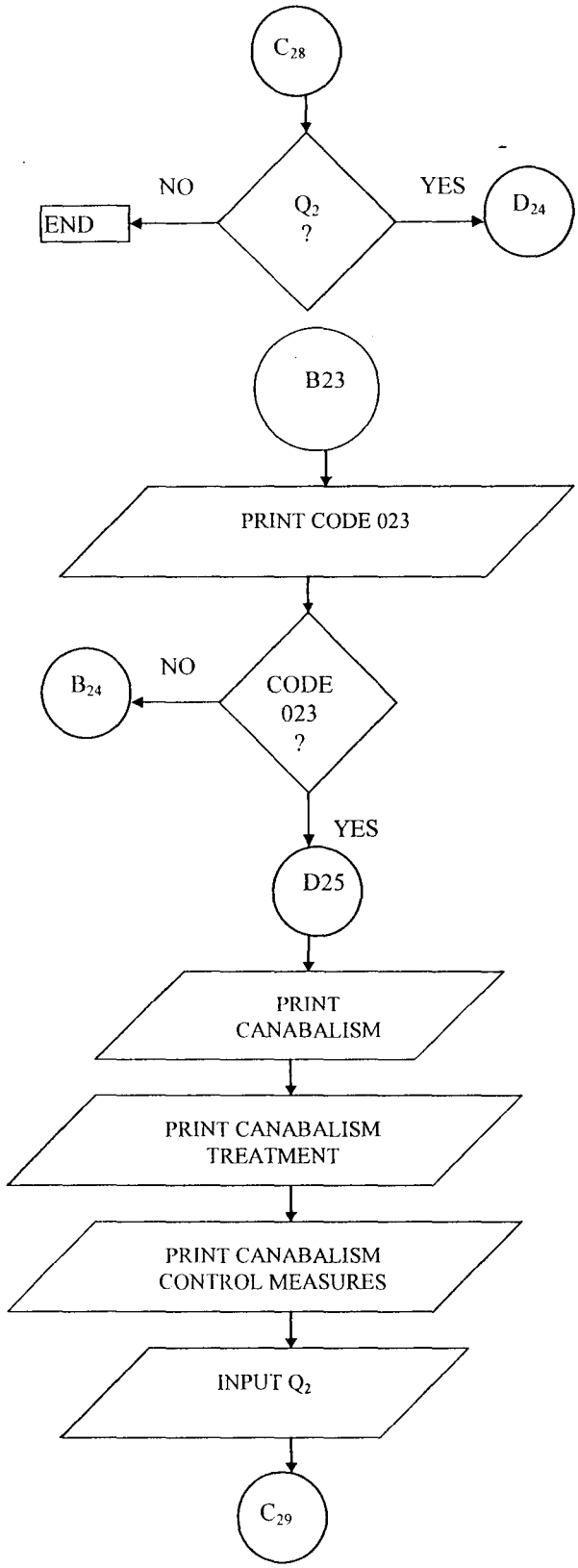

$C_{23}$
NO
$Q_2$ ?
YES
END
$D_{20}$
B18
PRINT CODE 018
NO
$B_{19}$
CODE 018 ?
YES
D20
PRINT MAREK DISEASE
PRINT MAREK DISEASE TREATMENT
PRINT MAREK DISEASE CONTROL MEASURES
INPUT $Q_2$
$C_{24}$

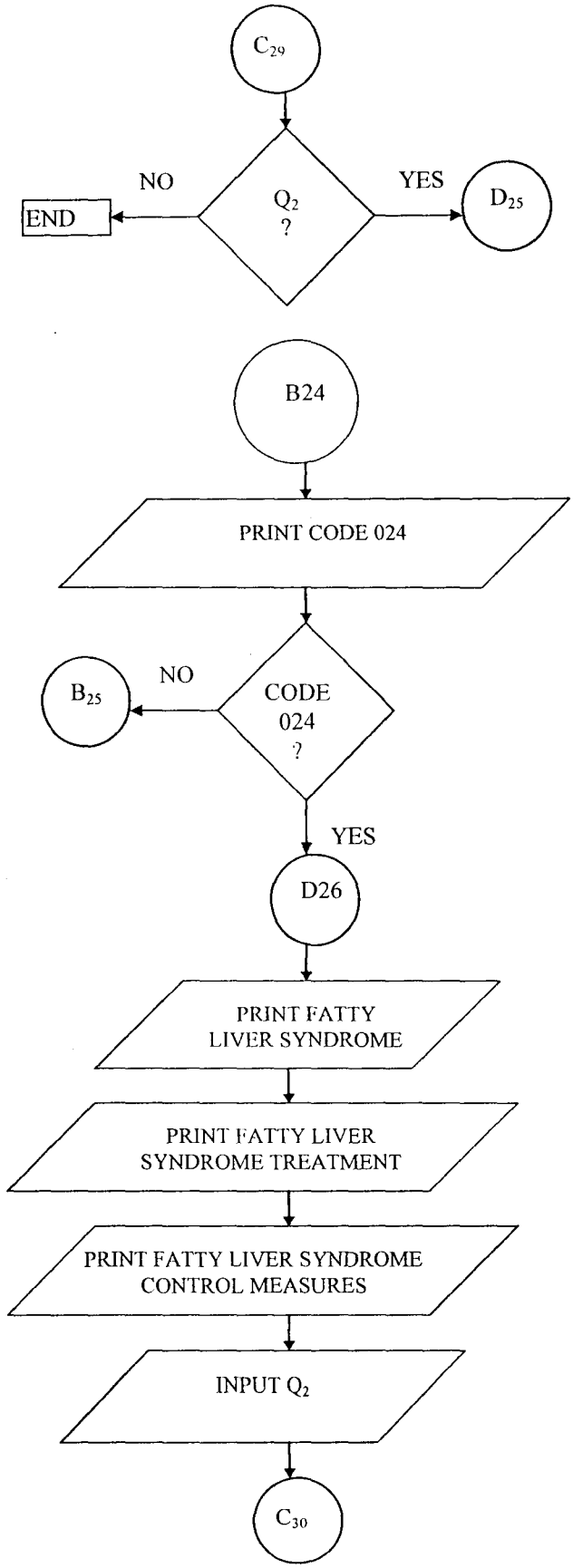

C24
NO
YES
Q2
?
END
D20
B19
PRINT CODE 019
NO
B20
CODE
019
?
YES
PRINT
COCCIOIDIOSIS
D21
PRINT COCCIODIOSIS
CONTROL TREATMENT
PRINT COCCIODIOSIS
CONTROL MEASURES
INPUT Q2
C25

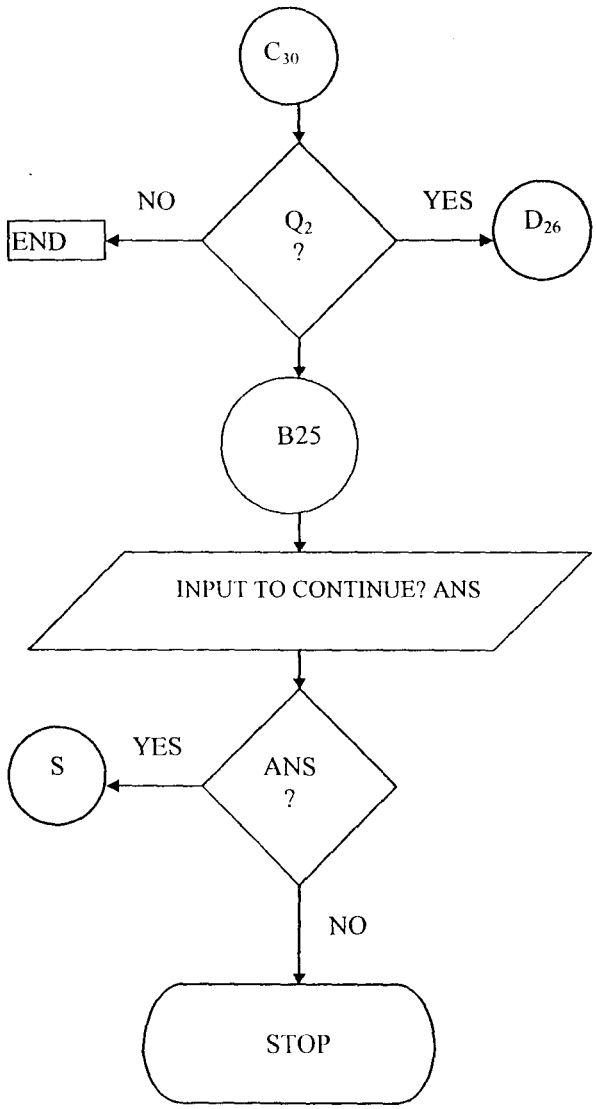

C25
NO
Q2
?
YES
END
D21
B20
PRINT CODE 020
B21
NO
CODE
020
?
YES
D22
PRINT
HISTOMONIASIS
PRINT HISTOMONIASIS
TREATMENT
PRINT HISTOMONIASIS
CONTROL MEASURES
INPUT Q2
C26


C26
NO
Q2
?
YES
END
D22
B21
PRINT CODE 021
B22
NO
CODE
021
?
YES
D23
PRINT
HELMINTHIASIS
PRINT HELMINTHIASIS
TREATMENT
PRINT HELMINTHIASIS
CONTROL MEASURES
INPUT Q2
C27


C27
NO
YES
END
Q2
?
D23
B22
PRINT CODE 022
NO
B23
CODE
022
?
YES
D24
PRINT
ECTOPARASITISM
PRINT ECTOPARASITISM
TREATMENT
PRINT ECTOPARASITISM
CONTROL MEASURES
INPUT Q2
C28


C28
NO
Q2
?
YES
D24
END
B23
PRINT CODE 023
NO
B24
CODE
023
?
YES
D25
PRINT
CANABALISM
PRINT CANABALISM
TREATMENT
PRINT CANABALISM
CONTROL MEASURES
INPUT Q2
C29


C29
NO
YES
Q2
?
END
D25
B24
PRINT CODE 024
B25
NO
CODE
024
?
YES
D26
PRINT FATTY
LIVER SYNDROME
PRINT FATTY LIVER
SYNDROME TREATMENT
PRINT FATTY LIVER SYNDROME
CONTROL MEASURES
INPUT Q2
C30


C30
NO
YES
END
Q2
?
D26
B25
INPUT TO CONTINUE? ANS
S
YES
ANS
?
NO
STOP

# APPENDIX 2

```
SET ECHO OFF
SET TALK OFF
SET STATU OFF
SET PROCEDURE TO BOSSO
DO M
!MSCREEN.EXE
DO WHILE .T.
   SET COLOR TO W+/B
   clear
   DO BEAUTY1
   SET COLOR TO W+/R
   @10,22 SAY " YOU ARE WELCOME TO DR.INUWA'S POULTRY "
   @11,22 SAY "          DIAGNOSTIC SOFTWARE           "
   SET COLOR TO W+/R
   @20,20 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   SET COLOR TO W+/B
   CLEAR
   DO WHILE .T.
     SET COLOR TO W+/B
     CLEAR
     TAKE = " "
     DO BEAUTY1
     SET COLOR TO W+/R
     @10,22 SAY " DO YOU HAVE PROBLEMS WITH YOUR BIRDS ? "
     SET COLOR TO W+/R*
     @12,22 SAY KONS4
     @12,52 GET TAKE PICT "!"
     READ
     IF TAKE = "Y" .OR. TAKE = "N"
        EXIT
     ELSE
       SET COLOR TO W+/B
```

```
      CLEAR
      DO BEAUTY1
      SET COLOR TO W+/R
      @10,22 SAY KONS5
      @20,20 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  SET COLOR TO W+/B
  IF TAKE = "N"
    CLEAR
    DO BEAUTY1
    SET COLOR TO W+/R
    @10,22 SAY " CONGRATULATIONS SINCE YOU DONT HAVE "
    @11,22 SAY " PROBLEMS WITH YOUR BIRDS.KEEP IT UP "
    @20,20 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    EXIT
  ENDIF
  CLEAR
  DO BEAUTY1
    DO TWO
    DO BEAUTY1
    SET COLOR TO W+/R
    @1,36 SAY "OUTPUT 1"
    @10,16 say " You will carefully study these clinical signs "
    @11,16 say " Which will appear in codes and pick the code "
    @12,16 say " That most closely resemble those been exhibited "
    @13,16 say " By your sick birds "
    @20,20 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY
```

```
    DO THREE
    CH1 = SPACE(1)
    @18,50 GET CH1 PICT "!"
    READ
    IF CH1 = "Y"
    @1,36 SAY "OUTPUT 3"
    CLEAR
    Q1 = " "
    @10,10 SAY "DO YOU NOTICE SOME SCALY DERMATITIS AROUND THE
BEAK "
    @11,10 SAY "AND VENT OF THE BIRDS ? Y/N"
    @11,38 GET Q1 PICT "@!"
    READ
    IF Q1 = "Y"
      SET COLOR TO W+/B
      CLEAR
      DO PAD
      EXIT
    ELSE
      SET COLOR TO W+/B
      CLEAR
      DO VITAD
      EXIT
    ENDIF
  ENDIF
  SET COLOR TO W+/B
  CLEAR
  DO BEAUTY
  SET COLOR TO W+/GR
  @7,15 SAY " SOME OF BIRDS ARE SITTING ON THIER HOCK "
  @8,15 SAY " AFFECTED BIRDS HAVE ENLARGED HOCK JOINTS AND LAME "
  @9,15 SAY " THE BIRDS EASILY GET FRACTURED,AND HAVE SOFT,PLIABLE "
  @10,15 SAY " CLAWS AND BEAK "
  CH2 = " "
  @14,15 SAY KONS1
  @15,15 SAY KONS2
  @16,15 SAY KONS3
  SET COLOR TO W+/GR*
  @18,15 SAY KONS4
  @18,50 GET CH2 PICT "!"
  READ
  IF CH2 = "Y"
    SET COLOR TO W+/B
    CLEAR
```

```
    T = " "
    @10,10 SAY "DO YOU OBSERVE SOME BEADINGS ON THE RIBS AND"
    @11,10 SAY "STERNUM OF THE BIRDS ? Y/N "
    @11,38 GET T PICT "@!"
    READ
    IF T = "N"
      SET COLOR TO W+/B
      CLEAR
      DO CPD
      EXIT
    ENDIF
      IF T = "Y"
        SET COLOR TO W+/B
        CLEAR
        DO VITDD
        EXIT
      ENDIF
    ENDIF
    CLEAR
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY
    SET COLOR TO W+/GR
    @7,15 SAY " SOME OF MY BIRDS MOVE AS IF THEY ARE DRUNK "
    @8,15 SAY " AND FREQUENTLY FALL OVER. THERE IS BACKWARD "
    @9,15 SAY " AND DOWNWARD RETRACTION OF THE HEAD(TORTICOLLIS) "
    @10,15 SAY " THE BIRDS MOVE AS IF THEY ARE FORCED AND THE
MOVEMENT "
    @11,15 SAY " IS NOT CO-ORDINATED "
    CH3 = " "
    @14,15 SAY KONS1
    @15,15 SAY KONS2
    @16,15 SAY KONS3
    SET COLOR TO W+/GR*
    @18,15 SAY KONS4
    @18,50 GET CH3 PICT "!"
    READ
    IF CH3 = "Y"
      SET COLOR TO W+/B
      CLEAR
      DO CCD
      EXIT
    ENDIF
    CLEAR
```

```
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY
    SET COLOR TO W+/GR
    @10,15 SAY " SOME OF MY BIRDS STAND WITH THEIR LEGS FAR APART "
    @11,15 SAY " AND GREENISH,VISCOUS FLUID IS SEEN THROUGH THE SKIN
"
    @12,15 SAY " OF THEIR WINGS,LEGS AND BREAST MUSCULATURE."
    CH4 = " "
    @14,15 SAY KONS1
    @15,15 SAY KONS2
    @16,15 SAY KONS3
    SET COLOR TO W+/GR*
    @18,15 SAY KONS4
    @18,50 GET CH4 PICT "!"
    READ
    IF  CH4 = "Y"
      CLEAR
      SET COLOR TO W+/B
      DO VITED
      EXIT
    ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY " SOME OF MY BIRDS HAVE THIER TOES CURLED "
      @7,15 SAY " DOWNWARD AND INWARD. SOME SUPPORT THIER "
      @8,15 SAY " WEIGHT MAINLY ON THEIR HOCKS(KNEE).THOSE "
      @9,15 SAY " AFFECTED ARE RELUCTANT TO MOVE UNLESS THEY "
      @10,15 SAY " ARE FORCED TO.SOME ARE RECUMBENT AND LOWER "
      @11,15 SAY " THEIR HEAD WITH THIER WINGS DROOPING.THOSE "
      @12,15 SAY " AFFECTED HAVE ATROPHIED/SHRUNKEN MUSCLE "
      CH5 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
      @16,15 SAY KONS3
      SET COLOR TO W+/GR*
      @18,15 SAY KONS4
      @18,50 GET CH5 PICT "!"
      READ
      IF CH5 = "Y"
        SET COLOR TO W+/B
```

```
        CLEAR
        DO CTP
        EXIT
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @ 10,15 SAY " SOME OF MY BIRDS HAVE THEIR HOCK JOINT (KNEE)
ENLARGED "
      CH6 = " "
      @ 12,15 SAY KONS1
      @ 13,15 SAY KONS2
      @ 14,15 SAY KONS3
      SET COLOR TO W+/GR*
      @16,15 SAY KONS4
      @16,50 GET CH6 PICT "!"
      READ
      IF CH6 = "Y"
        SET COLOR TO W+/B
        CLEAR
        DO P
        EXIT
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY " MY BIRDS HURDLE TOGETHER NEAR A SOURCE OF HEAT "
      @7,15 SAY " SOME OF THEM APPEAR TO BE SLEEPING . SOME HAVE  "
      @8,15 SAY " WHITISH,FECAL PASTING AROUND THEIR VENT.SOME MAKE
"
      @8,15 SAY " SOME FEEBLE CRY CONTINOUSLY.THE BIRDS APPEAR AS IF
"
      @10,15 SAY " DIPPED IN WATER AND SHOW DROOPING WINGS "
      @11,15 SAY " THEIR FEATHERS ARE RUFFLE AND ARE OFF FEED "
      CH7 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
      @16,15 SAY KONS3
      SET COLOR TO W+/GR*
      @18,15 SAY KONS4
```

```
      @18,50 GET CH7 PICT "!"
      READ
      IF CH7 = "Y"
        SET COLOR TO W+/B
        CLEAR
        DO FTYPHOID
        EXIT
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY " SOME OF MY BIRDS SHOW SOME MUCUS DISCHARGE FROM
THEIR"
      @7,15 SAY " BEAKS SOME ARE PASSING GREENISH YELLOW
DIARRHOEA."
      @8,15 SAY " AFFECTED BIRDS HAVE THEIR COMB AND WATTLE
SWOLLEN."
      @9,15 SAY " REAPIRATION IS DIFFICULT AND WHEN THEY RESPIRE,YOU "
      @10,15 SAY " HEAR A RATTLING SOUND.THERE IS CATARRHAL
DISCHARGE "
      @11,15 SAY " FROM THEIR NOSE.THEIR HEAD IS TURNED TO ONE "
      @12,15 SAY " ONE SIDE(TORTICOLLIS) "
      CH8 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
      @16,15 SAY KONS3
      SET COLOR TO W+/GR*
      @18,15 say kons4
      @18,50 GET CH8 PICT "!"
      READ
      IF CH8 = "Y"
        SET COLOR TO W+/B
        CLEAR
        DO FCHOLERA
        EXIT
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY " SOME OF MY BIRDS HAVE OEDEMA OF THE FACE AND/OR "
```

```
     @7,15 SAY " WATTLES.AFFECTED BIRDS HAVE SWOLLEN EYELID.I ALSO
"
     @8,15 SAY " NOTICE SEROUS NASAL DISCHARGE AND OCCASSIONALLY
"
     @9,15 SAY " RALES IS HEARD "
     CH9 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @16,15 SAY KONS3
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH9 PICT "!"
     READ
     IF CH9 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO ICORYZA
       EXIT
     ENDIF
     CLEAR
     SET COLOR TO W+/B
     CLEAR
     DO BEAUTY
     SET COLOR TO W+/GR
     @10,15 SAY " MY BIRDS HAVE NASAL DISCHARGE,COUGH,SNEEZING "
     @11,15 SAY " AND BREATH THROUGH PARTLY OPENED BEAK "
     CH10 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @16,15 SAY KONS3
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH10 PICT "!"
     READ
     IF CH10 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO CRD
       EXIT
     ENDIF
     CLEAR
     SET COLOR TO W+/B
     CLEAR
     DO BEAUTY
```

```
     SET COLOR TO W+/GR
     @6,15 SAY " MY BIRDS ARE SLUGGISH AND LAME.THEY HAVE PALE "
     @7,15 SAY " COMB AND WATTLE AND ARE HIGHLY EMACIATED THAT
THE "
     @8,15 SAY " BREAST (CHEST) BONE HAS BECOME VERY PROMINENT AND
"
     @9,15 SAY " HAS A KNIFE EDGE APPEARANCE "
     CH11 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @16,15 SAY KONS3
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH10 PICT "!"
     READ
     IF CH11 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO TB
       EXIT
     ENDIF
     CLEAR
     SET COLOR TO W+/B
     DO BEAUTY
     SET COLOR TO W+/GR
     @6,15 SAY "SOME OF MY BIRDS ARE COUGHING AND GASPING WHICH"
     @7,15 SAY "IS SOMETIMES FOLLOWED BY COMPLETE
PARALYSIS.AFFECTED"
     @8,15 SAY "BIRDS ARE NOT EATING FOOD,ARE DEPRESSED AND SHOW
CYCLING"
     @9,15 SAY "MOVEMENTS.THEY HAVE DROOPING WINGS,DRAG THEIR
LEGS AND"
     @10,15 SAY "THEIR HEAD AND NECK TWIST.SOME HAVE WATERY
GREENISH"
     @11,15 SAY "DIARRHOEA"
     CH12 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @16,15 SAY KONS3
     @18,15 SAY KONS4
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH12 PICT "!"
     READ
```

```
      IF CH12 = "Y"
        SET COLOR TO W+/B
        CLEAR
        DO NCD
        EXIT
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @10,15 SAY " I NOTICE MY BIRDS COUGHING,SNEEZING WITH "
      @11,15 SAY " DIFFICULT BREATHING.WHEN THEY BREATH,THEY "
      @12,15 SAY " DO SO WITH THEIR NECK STRECHED WHILE INHALING "
      @13,15 SAY " AIR. "
      CH13 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
      @16,15 SAY KONS3
      SET COLOR TO W+/GR*
      @18,15 SAY KONS4
      @18,50 GET CH13 PICT "!"
      READ
      IF CH13 = "Y"
        SET COLOR TO W+/B
        CLEAR
        DO ILT
        EXIT
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY " EGG PRODUCTION OF MY LAYERS HAVE REDUCED AND THE
"
      @7,15 SAY "  EGGS ARE OFTEN MISHAPEN,THIN,SHELLESS AND CONTAIN
"
      @8,15 SAY " THIN WATERY ALBUMEN.THE PULLETS CONTINUE TO LAY "
      @9,15 SAY " MISHAPEN EGGS WHILE THE ADULTS LAY NORMAL EGGS
AFTER "
      @10,15 SAY " RECOVERY "
      CH14 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
```

```
      @16,15 SAY KONS3
      SET COLOR TO W+/GR*
      @18,15 SAY KONS4
      @18,50 GET CH14 PICT "!"
      READ
      IF CH14 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO TALITY
       IF MBIDITY >= 80 .AND. MTALITY <= 100
        CLEAR
        DO IB
        EXIT
       ELSE
        SET COLOR TO W+/B
        CLEAR
        DO NCD
        EXIT
       ENDIF
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY "SOME OF MY BIRDS ARE COUGHING AND GASPING WHICH"
      @7,15 SAY "IS SOMETIMES FOLLOWED BY COMPLETE
PARALYSIS.AFFECTED"
      @8,15 SAY "BIRDS ARE NOT EATING FOOD,ARE DEPRESSED AND SHOW
CYCLING"
      @9,15 SAY "MOVEMENTS.THEY HAVE DROOPING WINGS,DRAG THEIR
LEGS AND"
      @10,15 SAY "THEIR HEAD AND NECK TWIST.SOME HAVE WATERY
GREENISH"
      @11,15 SAY "DIARRHOEA"
      ch15 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
      @16,15 SAY KONS3
      @18,15 SAY KONS4
      SET COLOR TO W+/GR*
      @18,15 SAY KONS4
      @18,50 GET CH15 PICT "!"
      READ
      IF CH15 = "Y"
```

```
      SET COLOR TO W+/B
      CLEAR
      DO TALITY
      IF MTALITY >= 20 .AND. MTALITY <= 50
        SET COLOR TO W+/B
        CLEAR
        DO ILT
        EXIT
      ELSE
        SET COLOR TO W+/B
        CLEAR
        DO IB
        EXIT
      ENDIF
    ENDIF
    CLEAR
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY
    SET COLOR TO W+/GR
    @6,15 SAY "THERE IS SEVERE PROSTRATION IN MY
BIRDS,INCORDINATION"
    @7,15 SAY "WATERY DIARRHOEA,SOILED VENT FEATHERS.THERE IS
VENT"
    @8,15 SAY "PICKING AND INFLAMMATION OF THE CLOACA "
    CH16 = " "
    @14 ,15 SAY KONS1
    @15,15 SAY KONS2
    @16,15 SAY KONS3
    SET COLOR TO W+/GR*
    @18,15 SAY KONS4
    @18,50 GET CH16 PICT "!"
    READ
    IF CH16 = "Y"
      Q3 = " "
      Q4 = " "
      CLEAR
      @10,10 SAY "IS THERE ANY NERVOUS COMPLICATION IN ANY"
      @11,10 SAY "OF THE BIRDS ? Y/N "
      @11,30 GET Q3 PICT "@!"
      @13,10 SAY "IS THE DIARRHOEA GREENISH IN COLOR ? Y/N"
      @13,50 GET Q4 PICT "@!"
      READ
      IF MTALITY >= 20 .AND. MTALITY <= 80 .AND.Q3 = "N".AND. Q4 =
```

```
"N"
        SET COLOR TO W+/B
        CLEAR
        DO IBD
        EXIT
       ELSE
        SET COLOR TO W+/B
        CLEAR
        DO NCD
        EXIT
       ENDIF
      ENDIF
      CLEAR
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY
      SET COLOR TO W+/GR
      @6,15 SAY " I NOTICE SOME SMALL WHITE WATERY BLEB LESSION
WHICH "
      @7,15 SAY " USE TO INCREASE IN SIZE AND BECOME YELLOW INITIALLY "
      @8,15 SAY " THEN COALESE TO FORM GREYISH BROWN WART-LIKE
GROWTH. "
      @9,15 SAY " THE LESSION ARE SEEN MOSTLY AROUND THE
LEG,FEET,COMB "
      @10,15 SAY " AND WATTLE.SOMETIMES, THERE IS DIFFICULT BREATHING
FROM "
      @11,15 SAY " THE BIRDS IF THE LESSION OCCUR IN THE NOSTRILS OR
EVEN "
      @12,15 SAY " CAUSE EYE TO CLOSE IF PRESENT AROUND THE EYELIDS "
      CH17 = " "
      @14,15 SAY KONS1
      @15,15 SAY KONS2
      @16,15 SAY KONS3
      SET COLOR TO W+/GR*
      @18,15 SAY KONS4
      @18,15 SAY KONS4
      @18,50 GET CH17 PICT "!"
      READ
      IF CH17 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO POX
       EXIT
      ENDIF
```

```
     CLEAR
     SET COLOR TO W+/B
     CLEAR
     DO BEAUTY
     SET COLOR TO W+/GR
     @10,15 SAY " SOME OF MY BIRDS HAVE ONE OF THEIR LEGS STRECHED "
     @11,15 SAY " FORWARD AND THE OTHER BACKWARD.THERE IS ALSO
PARALYSIS  "
     @12,15 SAY " OF THE WINGS AND LEGS.THE BIRDS ARE UNABLE TO
STAND. "
     CH18 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @16,15 SAY KONS3
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH18 PICT "!"
     READ
     IF CH18 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO MAREK
       EXIT
     ENDIF
     CLEAR
     SET COLOR TO W+/B
     CLEAR
     DO BEAUTY
     SET COLOR TO W+/GR
     @10,15 SAY " I NOTICE MY BIRDS HURDLING TOGETHER,THEY APPEAR "
     @11,15 SAY " CHILLED THEY NEITHER EAT NOR DRINK AND THERE IS "
     @12,15 SAY " BLOOD IN THEIR DROPPINGS "
     CH19 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @17,15 SAY KONS3
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH19 PICT "!"
     READ
     IF CH19 = "Y"
       SET COLOR TO W+/B
       CLEAR
       DO CDIOSIS
```

```
  EXIT
ENDIF
CLEAR
SET COLOR TO W+/B
CLEAR
DO BEAUTY
SET COLOR TO W+/GR
@6,15 SAY " I NOTICE MY BIRDS PASSING SULFUR COLORED "
@7,15 SAY " DROPPINGS,THEY HAVE DROOPY WINGS,UNKEMPT "
@8,15 SAY " FEATHERS,ARE LISTLESS.AFFECTED  "
@9,15 SAY " ONES HAVE CYANOTIC HEAD "
CH20 = " "
@14,15 SAY KONS1
@15,15 SAY KONS2
@16,15 SAY KONS3
SET COLOR TO W+/GR*
@18,15 SAY KONS4
@18,50 GET CH20 PICT "!"
READ
IF CH20 = "Y"
  SET COLOR TO W+/B
  CLEAR
  DO HISTO
  EXIT
ENDIF
CLEAR
SET COLOR TO W+/B
CLEAR
DO BEAUTY
SET COLOR TO W+/GR
@10,15 SAY " I NOTICE MY BIRDS ARE UNTHRIFTY,ARE INACTIVE,HAVE "
@11,15 SAY " DEPRESSED APPETITE,RETARDED GROWTH AND LOWER "
@12,15 SAY " PRODUVTIVITY "
CH21 = " "
@14,15 SAY KONS1
@15,15 SAY KONS2
@16,15 SAY KONS3
SET  COLOR TO W+/GR*
@18,15 SAY KONS4
@18,50 GET CH21 PICT "!"
READ
IF CH21 = "Y"
  SET COLOR TO W+/B
  CLEAR
```

```
      DO HELMINTH
      EXIT
    ENDIF
    CLEAR
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY
    SET COLOR TO W+/GR
    @10,15 SAY "  MY BIRDS ARE LISTLESS,ANAEMIC,LETHARGIC,ANORECTIC
"
    @11,15 SAY " HAVE DERMATITIS,DECREASED
PRODUCTIVITY,FREQUENTLY "
    @12,15 SAY " RUB THEIR BODIES AGAINST OBJECTS,HAS POOR
FEATHERS "
    CH22 = " "
    @14,15 SAY KONS1
    @15,15 SAY KONS2
    @16,15 SAY KONS3
    SET COLOR TO W+/GR*
    @18,15 SAY KONS4
    @18,50 GET CH22 PICT "!"
    READ
    IF CH22 = "Y"
      SET COLOR TO W+/B
      CLEAR
      DO ECTO
      EXIT
    ENDIF
    CLEAR
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY
    SET COLOR TO W+/GR
    @10,15 SAY " MY BIRDS HAVE DEVELOPED THE HABIT OF VENT PICKING
"
    @11,15 SAY " TOE PICKING,FEATHER PICKING AND HEAD PICKING.SOME
OF "
    @12,15 SAY " THEM HAVE OPEN WOUNDS LEADING TO LOSS OF BLOOD"
    @ 13,15 SAY "(HEAMORRHAGE) "
    CH23 = " "
    @14,15 SAY KONS1
    @15,15 SAY KONS2
    @16,15 SAY KONS3
    SET COLOR TO W+/GR*
```

```
     @18,15 SAY KONS4
     @18,50 GET CH23 PICT "!"
     READ
     IF CH23 = "Y"
      SET COLOR TO W+/B
      CLEAR
      DO CANALISM
      EXIT
     ENDIF
     CLEAR
     SET COLOR TO W+/B
     CLEAR
     DO BEAUTY
     SET COLOR TO W+/GR
     @10,15 SAY " MY BIRDS APPEAR OVERWEIGHT WITH HEAVY ABDOMINAL
FAT "
     @11,15 SAY " THEIR COMBS AND WATTLES ARE PALE AND EGG
PRODUCTION "
     @12,15 SAY " REDUCED "
     CH24 = " "
     @14,15 SAY KONS1
     @15,15 SAY KONS2
     @16,15 SAY KONS3
     SET COLOR TO W+/GR*
     @18,15 SAY KONS4
     @18,50 GET CH24 PICT "!"
     READ
     IF CH24 = "Y"
      SET COLOR TO W+/B
      CLEAR
      DO FATTY
      EXIT
     ELSE
      SET COLOR TO W+/B
      CLEAR
      @10,10 SAY "THIS IS THE LAST CLINICAL SIGN/SYMPTOM TO BE"
      @11,10 SAY "DISPLAYED BY THIS SOFTWARE.YOU MAY HAVE TO GO"
      @12,10 SAY "OVER IT AGAIN OR QUIT "
      WAIT
      CLEAR
      CHOICE2 = " "
      @10,10 SAY "DO YOU WANT TO GO OVER IT AGAIN ? Y/N "
      @10,60 GET CHOICE2 PICT "@!"
      READ
```

```
        IF CHOICE2 = "Y"
          DO BOSSO
        ELSE
          EXIT
        ENDIF
      ENDIF
    ENDDO
    SET STAT OFF
    SET COLOR TO W+/B
    CLEAR
    CHOICE = " "
    @10,10 SAY "DO YOU WANT TO CONTINUE ? Y/N"
    @10, 40 GET CHOICE PICT "@!"
    READ
    IF CHOICE = "Y"
     DO BOSSO
    ENDIF
    SET TALK ON
    CLEAR
    RETURN


PROC M
SET TALK OFF
CLEAR
N = 0
DO WHILE .T.
 SET COLOR TO W+/B
 CLEAR
 WORD = SPACE (15)
 DO BEAUTY1
 SET COLOR TO W+/R
 @10,16 SAY " Enter Access PASSWORD  Please"
 SET INTE OFF
 SET COLOR TO R/R
 @10,50  GET WORD PICT "@!"
 READ
 USE SECURITY
 IF WORD = PWORD
  EXIT
 ELSE
  SET COLOR TO W+/B
  N = N + 1
   CLEAR
```

```
      DO BEAUTY1
      SET COLOR TO W+/R
      @10,24 SAY " Enter Correct PASSWORD Please "
      @20,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      SET COLOR TO W+/B
      CLEAR
      IF N  = 3
        CLEAR
        DO BEAUTY1
        SET COLOR TO W+/R*
        @10,16 SAY " YOU ARE A THIEF "
        SET COLOR TO W+/R
        @11,16 SAY " This is your third trial "
        @12,16 SAY " But you cant get your password ?, INCREDIBLE!!! "
        @20,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        SET COLOR TO W+/B
        CLEAR
        QUIT
      ENDIF
       LOOP
    ENDIF
ENDDO
SET INTE ON
SET COLOR TO W+/B
CLOSE ALL
RETURN

PROC VITAD
SET TALK OFF
SET SCORE OFF
CLEAR
DO WHILE .T.
  DO PAC2
  SET COLOR TO W+/RB
  @10,20 SAY  M6
  @12,20 SAY M7
```

```
  @14,20 SAY M8
  SET COLOR TO W+/R
  @20,20 SAY " Press ENTER "  +CHR(17)+CHR(196)+CHR(217)+  " Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  SET COLOR TO W+/B
  CLEAR
  DO BEAUTY1
  SET COLOR TO W+/R*
  @10,20 SAY "        VITAMIN  A  DEFICIENCY          "
  SET COLOR TO W+/R
  @20,20 SAY " Press ENTER "  +CHR(17)+CHR(196)+CHR(217)+  " Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  SET COLOR TO W+/B
  CLEAR
  DO WHILE .T.
    DO BREEDER
    R = SPACE (02)
    @16,39 GET R PICT "@!"
    READ
    IF R = "BR" .OR. R = "LY" .OR. R = "BL" .OR. R = "CH"
      EXIT
    ELSE
      CLEAR
      DO BREED
      LOOP
    ENDIF
  ENDDO
  SET COLOR TO W+/B
  CLEAR
  DO WHILE .T.
    RR = " "
    DO BEAUTY1
    SET COLOR TO W+/R
    @10,16 SAY " DO YOU COMPOUND YOUR FEED YOURSELF ? "
    @12,16 SAY KONS4
    @12,50 GET RR PICT "!"
    READ
    SET COLOR TO W+/B
```

```
    CLEAR
    IF RR = "Y" .OR. RR = "N"
      EXIT
    ELSE
      CLEAR
      DO BEAUTY1
      SET COLOR TO W+/R
      @10,16 SAY KONS5
      @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      SET COLOR TO W+/B
      CLEAR
      LOOP
    ENDIF
  ENDDO
  SET COLOR TO W+/B
  CLEAR
  DO BEAUTY1
  SET COLOR TO W+/R
  @10,16 SAY M9
  @12,16 SAY M10
  @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  IF R = "CH" .OR. R = "BL"
    DO TREAT
    SET COLOR TO W+/B
    @5,23 SAY M11
    @6,33 TO 6,43 DOUB
    @8,14 SAY " PROVIDE 4,500 I.U/KG OF VIT A IN THE FEED TO THE BIRDS "
    @10,14 SAY " FOR 14 DAYS "
    @24,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ELSE
    SET COLOR TO W+/B
    CLEAR
```

```
   DO TREAT
   SET COLOR TO W+/B
   @5,23 SAY M11
   @6,33 TO 6,43 DOUB
   @8,14 SAY " PROVIDE 4000 I.U/KG OF FEED TO THE BIRDS "
   @10,14 SAY " FOR 14 DAYS "
   SET COLOR TO W+/R
   @24,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   SET COLOR TO W+/B
   CLEAR
  ENDIF
  SET COLOR TO W+/B
  CLEAR
  IF RR = "Y"
   DO PAC
   SET COLOR TO W+/RB
   @4,14 SAY M12
   @5,27 TO 5,48 DOUB
   @8,12 SAY "    SINCE YOU COMPOUND YOUR FEED MAKE SURE YOU "
   @10, 12 SAY "1. PUT ANTI-OXIDANTS OF VIT. A IN YOUR FEED AND "
   @12,12 SAY "    ENSURE THOROUGH AND PROPER MIXING OF YOUR FEED "
   @14,12 SAY "    SO THAT ALL MICRO-NUTRIENTS ARE ALMOST EVENLY "
   @16,12 SAY "    SPREAD IN THE RESULTANT FEED "
   SET COLOR TO W+/R
   @24,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   SET COLOR TO W+/B
   CLEAR
   DO PAC
   SET COLOR TO W+/RB
   @5,27 TO 5,48 DOUB
   @10,12 SAY " 2. USE STABALISED VIT. A SUPPLEMENT WHICH IS
AVAILABLE "
   @12,12 SAY "    IN THE MARKET WHEN COMPOUNDING YOUR FEED "
   SET COLOR TO W+/R
   @24,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
```

```
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    SET COLOR TO W+/B
    CLEAR
  ELSE
    SET COLOR TO W+/B
    DO PAC
    SET COLOR TO W+/RB
    @4,14 SAY M12
    @5,27 TO 5,48 DOUB
    @10,12 SAY " SINCE YOU DONT COMPOUND YOUR FEED LOCALLY,MAKE "
    @12,12 SAY " SURE YOU BUY YOUR FEED FROM REPUTABLE FEED "
    @14,12 SAY " MANUFACTURERS WHO INCO-ORPERATE ANTI-OXIDANTS "
    @16,12 SAY " IN THEIR FEED. "
    SET COLOR TO W+/R
    @24,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    SET COLOR TO W+/B
    CLEAR
  ENDIF
  SET COLOR TO W+/B
  CLEAR
  RP = " "
  DO BEAUTY1
  SET COLOR TO W+/R
  @10,16 SAY M13
  @12,16 SAY M14
  @14,16 SAY M15
  SET COLOR TO W+/R
  @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  DO WHILE .T.
    SET COLOR TO W+/B
    CLEAR
    DO BEAUTY1
    SET COLOR TO W+/R
    @10,16 SAY M16
```

```
      @12,16 SAY M17
      @14,16 SAY KONS4
      @14,50 GET RP PICT "!"
      READ
      IF RP = "Y" .OR. RP = "N"
       EXIT
      ELSE
       SET COLOR TO W+/B
       CLEAR
       DO BEAUTY1
       SET COLOR TO W+/R
       @10,16 SAY KONS5
       @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
  Continue... "
       SET CONSOLE OFF
       WAIT
       SET CONSOLE ON
       SET COLOR TO W+/B
       CLEAR
       LOOP
      ENDIF
     ENDDO
     IF RP = "Y"
      SET COLOR TO W+/B
      CLEAR
      LOOP
     ELSE
      EXIT
     ENDIF
    ENDDO
    SET COLOR TO W+/B
    SET STAT ON
    SET SCORE ON
    SET TALK ON
    RETURN

    PROC VITDD
    SET TALK OFF
    SET BELL OFF
    SET SAFETY OFF
    SET CONFIRM ON
    SET SCOR OFF
    DO WHILE .T.
     CLEAR
```

```
 DO PAC2
 SET COLOR TO W+/RB
 @ 10,20 SAY M6
 @ 12,20 SAY M7
 @ 14,20 SAY M8
 SET COLOR TO W+/R
 @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 SET COLOR TO W+/B
 CLEAR
 DO BEAUTY1
 SET COLOR TO W+/R*
 @ 10,20 SAY "        VITAMIN D DEFFICIENCY        "
 SET COLOR TO W+/R
 @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue..."
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 SET COLOR TO W+/B
 CLEAR
 DO WHILE .T.
   CLEAR
   R2 = SPACE (02)
   @4,10 TO 19,70 DOUBLE
   @ 5,26 SAY " ARE YOUR BIRDS LAYERS, BREEDERS, "
   @6,26 SAY " CHICKS OR BROILERS ?."
   SET COLOR TO W+/B*
   @ 11,12 SAY "ENTER"
   SET COLOR TO R+
   @8,22 SAY "BR"
   SET COLOR TO W+/B
   @8,27 SAY "FOR BREEDERS,"
   SET COLOR TO B+/W
   @10, 22 SAY "BL"
   SET COLOR TO W+/B
   @10,27 SAY "FOR BROILERS"
   SET COLOR TO W+
   @12,22 SAY "LY"
   SET COLOR TO W+/B
   @12,27 SAY "FOR LAYERS AND"
```

```
    SET COLOR TO G+
    @14,22 SAY "CH"
    SET COLOR TO W+/B
    @14,27 SAY "FOR CHICKS"
    @16,27 SAY "ENTER CHOICE"
    @16,40 GET R2 PICT "@!"
    READ
    SET COLOR TO W+/B
    IF R2 = "BR" .OR. R2 = "CH" .OR. R2 = "BL" .OR. R2 = "LY"
      EXIT
    ELSE
      CLEAR
      @8,12 TO 14,60 DOUB
      SET COLOR TO W+/N
      @ 10,20 SAY "ENTER BR => BREEDERS,  BL=> BROLIERS"
      @11,20 SAY "LY=> LAYERS, CH=> CHICKS ONLY"
      SET COLOR TO W+/R
      @20,20 SAY " Press ENTER Key" + CHR(17) + CHR(196) + CHR(217) + " To
Continue..."
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      SET COLOR TO W+/B
      CLEAR
      LOOP
    ENDIF
  ENDDO
  DO WHILE .T.
    RP2 = SPACE (01)
    CLEAR
    DO BEAUTY1
    SET COLOR TO W+/R
    @ 7,22 SAY "DO YOU COMPOUND YOUR FEEDS LOCALLY ?."
    @ 9,22 SAY KONS4
    @ 9,56 GET RP2 PICT "!"
    READ
    IF RP2 = "Y" .OR. RP2 = "N"
      EXIT
    ELSE
      SET COLOR TO W+/B
      CLEAR
      DO BEAUTY1
      SET COLOR TO W+/R
      @ 10,16 SAY KONS5
```

```
    @20,20 SAY " Press ENTER Key" + CHR(17) + CHR(196) + CHR(217) + " To
Continue..."
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    SET COLOR TO W+/B
    CLEAR
    LOOP
   ENDIF
  ENDDO
  SET COLOR TO W+/B
  CLEAR
  DO BEAUTY1
  SET COLOR TO W+/R
  @ 7,23 SAY M9
  @9,23 SAY M10
  @11,23 SAY " GIVEN BELOW "
  @20,20 SAY " Press ENTER "  + CHR(17) + CHR(196) + CHR(217) +  " Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  SET COLOR TO W+/B
  CLEAR
  IF R2 = "CH" .OR. R2 = "BL"
   DO TREAT
   SET COLOR TO W+/B
   @5,23 SAY M11
   @6,33 TO 6,43 DOUB
   @9,18 SAY "1. PROVIDE DRY VIT. D3 AT 600 I.U/KG"
   @11,19 SAY      "OF FEED FOR 21 DAYS "
   SET COLOR TO W+/R
   @24,24 SAY " Press ENTER Key" + CHR(17) + CHR(196) + CHR(217) + " To
Continue....."
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   SET COLOR TO W+/B
   CLEAR
  ELSE
   CLEAR
   DO BEAUTY1
   SET COLOR TO W+/R
   @ 7,18 SAY M9
```

```
   @9,18 SAY M10
   @11,18 SAY " GIVEN BELOW "
   @20,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   SET COLOR TO W+/B
   CLEAR
   DO TREAT
   SET COLOR TO W+/B
   @5,23 SAY M11
   @6,33 TO 6,43 DOUB
   @ 9,18 SAY "1. PROVIDE DRY VIT. D3 AT 1500 I.U/KG "
   @11,19 SAY   " OF FEED FOR 21 DAYS "
   SET COLOR TO W+/R
   @24,24 SAY " Press ENTER Key" +CHR(17)+CHR(196)+CHR(217)+" To
Continue..."
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   SET COLOR TO W+/B
   CLEAR
 ENDIF
 IF RP2 = "Y"
   CLEAR
   DO PAC
   SET COLOR TO W+/RB
   @ 4,14 SAY M12
   @5,27 TO 5,48 DOUB
   @ 8,20 SAY "PROVIDE 200 I.U/KG OF DRY VIT. D3"
   @10,20 SAY "IN YOUR FEED FOR CHICK MASH,"
   @12,20 SAY "BROILER STARTER AND BROILER FINISHER."
   @14,20 SAY "FOR LAYERS AND BREEDERS MASH"
   @ 16,20 SAY "PROVIDE 500 I.U/KG OF DRY VIT. D3"
   SET COLOR TO W+/R
   @24,24 SAY " Press ENTER Key" +CHR(17)+CHR(196)+CHR(217)+" To
Continue..."
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
 ELSE
   CLEAR
   DO PAC
```

```
    SET COLOR TO W+/RB
    @ 4,14 SAY M12
    @5,27 TO 5,48 DOUB
    @ 8,20 SAY "SINCE YOU DON'T COMPOUND YOUR FEEDS,"
    @10,20 SAY  "MAKE SURE YOU BUY YOUR FEED"
    @ 12,20 SAY "FROM REPUTABLE FEED MILLS"
    SET COLOR TO W+/R
    @24,24 SAY " Press ENTER Key" + CHR(17) + CHR(196) + CHR(217) + " To
Continue..."
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ENDIF
  SET COLOR TO W+/B
  CLEAR
  DO BEAUTY1
  SET COLOR TO W+/R
  @ 10,20 SAY M13
  @ 11,20 SAY M14
  @ 12,20 SAY M15
  @20,20 SAY " Press ENTER Key" + CHR(17) + CHR(196) + CHR(217) + " To
Continue..."
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  SET COLOR TO W+/B
  CLEAR
  DO WHILE .T.
    RESPONSE1 = SPACE (01)
    DO BEAUTY1
    SET COLOR TO W+/R
    @ 8,16 SAY M16
    @ 9,16 SAY M17
    SET COLOR TO W+/R*
    @ 12,20 SAY KONS4
    @ 12,60 GET RESPONSE1 PICT "!"
    READ
    SET COLOR TO W+/B
    CLEAR
    IF RESPONSE1 = "Y" .OR. RESPONSE1 = "N"
      EXIT
    ELSE
      SET COLOR TO W+/B
      CLEAR
```

```
     DO BEAUTY1
     SET COLOR TO W+/R
     @ 10,16 SAY KONS5
     @20,20 SAY " Press ENTER Key" + CHR(17) + CHR(196) + CHR(217) + " To
Continue..."
     SET CONSOLE OFF
     WAIT
     SET CONSOLE ON
     SET COLOR TO W+/B
    CLEAR
    LOOP
  ENDIF
 ENDDO
 SET COLOR TO W+/B
 CLEAR
 IF RESPONSE1 = "Y"
   SET COLOR TO W+/B
   LOOP
 ELSE
   EXIT
 ENDIF
ENDDO
SET COLOR TO W+/B
SET CONFIRM OFF
SET BELL ON
SET SAFETY ON
SET SCORE ON
SET TALK ON
RETURN


PROC CPD
SET TALK OFF
CLEAR
D1 = " 1. ENSURE THAT THE FEED YOU COMPOUND CONTAIN 3.4% AND
0.32% "
D2 = " OF CALCIUM AND PHOSPHORUS RESPECTIVELY "
A1 = " 2. YOU CAN IMPROVE YOUR EGG SHELL STRENGTH BY FEEDING
APPROXIMATELY "
A2 = " 50% OF THE DIETARY CALCIUM SUPPLEMENT IN THE FORM OF OYSTER
SHELL "
A3 = " FLAKES OR GROUND LIMESTONE, WITH THE REMAINING HALF AS
GROUND LIMESTONE "
B1 = " 3. NOTE THAT OYSTER SHELL OR ANY OTHER FORM OF CALCIUM
```

```
SUPPLEMENT SHOULD "
B2 = " NEVER BE ADDED WITHOUT AN EQUIVALENT REDUCTION IN THE
AMOUNT OF LIMESTONE "
B3 = " AS FEEDING TOO MUCH CALCIUM REDUCES FEED CONSUMPTION AND
EGG PRODUCTION "
C1 = " 4.NOTE ALSO THAT OFFERING THE COARSE SUPPLEMENT PERMITS THE
BIRDS TO "
C2 = " SATISFY THEIR REQUIREMENT WHEN THEY NEED IT MOST, OR ALLOWS
THE COARSE "
C3 = " MATERIAL TO BE RETAINED IN THE GIZZARD AND THE CALCIUM TO BE
METED OUT "
C4 = " CONTINOUSLY."
DO WHILE .T.
  @ 10,10 SAY M6
  @ 11,10 SAY M7
  @ 12,10 SAY M8
  @ 14,10 SAY " CALCIUM AND PHOSPHORUS DEFFICIENCY       "
  @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217) +" To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @ 10,10 SAY M9
  @ 11,10 SAY M10
  @ 13,10 SAY M11
  @ 15,10 SAY " PROVIDE READILY ASSIMILABLE CALCIUM SUPPLEMENT LIKE
ORYSTER "
  @ 16,10 SAY " FLAKES OR COARSE LIMESTONE OR GROUND LIMESTONE IN
THE FEED "
  @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @ 10,10 SAY M12
  REPLY3 = 0
  DO WHILE .T.
   REPLY2 = SPACE (02)
   CLEAR
   @ 10,10 SAY " ARE YOUR BIRDS LAYERS OR BREEDERS ?."
   @ 11,10 SAY " ENTER LY FOR LAYERS, BR FOR BREEEDERS,"
   @ 12,10 SAY  " NO FOR NEITHER OF THEM"
```

```
    @ 12,60 GET REPLY2 PICT "@!"
    READ
    IF REPLY2 = "LY" .OR. REPLY2 = "BR" .OR. REPLY2 = "NO"
     EXIT
    ELSE
     CLEAR
     @ 10,10 SAY " ENTER LY FOR LAYERS,BR FOR BREEDERS,NO FOR NEITHER
"
     @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
     SET CONSOLE OFF
     WAIT
     SET CONSOLE ON
     LOOP
    ENDIF
  ENDDO
  CLEAR
  @ 10,10 SAY " HOW OLD ARE YOUR BIRDS,"
  @ 11,10 SAY " ENTER THERE AGE IN WEEKS i.e 1, 2, 3 etc."
  @ 11,60 GET REPLY3 PICT "999"
  READ
  DO WHILE .T.
   CLEAR
   REPLY4 = SPACE (01)
   @ 10,10 SAY " DO YOU COMPOUND YOUR FEED LOCALLY ?."
   @ 11,10 SAY KONS4
   @ 11,60 GET REPLY4 PICT "!"
   READ
   IF REPLY4 = "Y" .OR. REPLY4 = "N"
    EXIT
   ELSE
    CLEAR
    @ 10,10 SAY KONS5
    @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    LOOP
   ENDIF
  ENDDO
  DO CASE
   CASE REPLY4 = "Y" .AND.(REPLY2 = "LY" .OR. REPLY2 = "BR")
    CLEAR
```

```
      @3,20 SAY M12
      @ 5,2 SAY D1
      @6,2 SAY D2
      @ 7,2 SAY A1
      @8,2 SAY A2
      @9,2 SAY A3
      @ 10,2 SAY B1
      @11,2 SAY B2
      @12,2 SAY B3
      @ 13,2 SAY C1
      @14,2 SAY C2
      @15,2 SAY C3
      @16,2 SAY C4
      @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
    CASE REPLY4 = "N" .AND. (REPLY2 = "LY" .OR. REPLY2 = "BR")
      CLEAR
      @1,20 SAY M12
      @2,2 SAY " 1. THEN MAKE SURE BUY YOUR FEED FROM REPUTABLE
FEED "
      @3,2 SAY " MILLS,AND ENSURE THAT IT CONTAINS 3.4% AND 0.32%
CALCIUM "
      @4,2 SAY " AND PHOSPHORUS RESPECTIVELY "
      @6,2 SAY  A1
      @7,2 SAY A2
      @8,2 SAY A3
      @9,2 SAY B1
      @10,2 SAY B2
      @11,2  SAY B3
      @12,2 SAY C1
      @13,2 SAY C2
      @14,2 SAY C3
      @15,2 SAY C4
      @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
    ENDCASE
    CLEAR
    DO CASE
```

```
      CASE ( REPLY3 < 6 .AND. REPLY2 = "NO" ) .AND. ( REPLY4 = "Y" )
       CLEAR
       @3,20 SAY M12
       @10,2 SAY " 1. ENSURE THAT THE FEED YOU COMPOUND CONTAINS "
       @11,2 SAY " 0.80% AND 0.40% CALCIUM AND PHOSPHORUS
RESPECTIVELY "
       @12,2 SAY B1
       @13,2 SAY B2
       @14,2 SAY B3
       @15,2 SAY C1
       @16,2 SAY C2
       @17,2 SAY C3
       @18,2 SAY C4
       @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
       SET CONSOLE OFF
       WAIT
       SET CONSOLE ON
     CASE ( REPLY3 < 6 .AND. REPLY2 = "NO" ) .AND. ( REPLY4 = "N" )
      CLEAR
      @3,20 SAY M12
      @5,2 SAY " 1. MAKE SURE YOU BUY YOUR FEED FROM REPUTABLE
FEEDMILLS "
      @6,2 SAY " AND ENSURE THAT IT CONTAINS 0.80% AND 0.40%
CALCIUM AND "
      @7,2 SAY " PHOSPHORUS RESPECTIVELY "
      @8,2 SAY B1
      @9,2 SAY B2
      @10,2 SAY B3
      @11,2 SAY C1
      @12,2 SAY C2
      @13,2 SAY C3
      @14,2 SAY C4
      @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
     CASE(( REPLY3 >= 6 .AND. REPLY3 <= 14 ) .AND.( REPLY2 = "NO" ))
.AND. ( REPLY4 = "Y" )
      CLEAR
      @3,20 SAY M12
      @5,2 SAY " 1. ENSURE THAT THE FEED YOU COMPOUND CONTAINS
0.70% AND 0.35% "
```

```
        @6,2 SAY " OF CALCIUM AND PHOSPHORUS RESPECTIVELY "
        @7,2 SAY B1
        @8,2 SAY B2
        @9,2 SAY B3
        @10,2 SAY C1
        @11,2 SAY C2
        @12,2 SAY C3
        @13,2 SAY C4
        @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
      CASE (( REPLY3 >= 6 .AND. REPLY3 <= 14 ) .AND.( REPLY2 = "NO" ))
.AND. ( REPLY4 = "N" )
        CLEAR
        @3,20 SAY M12
        @5,2 SAY " 1.MAKE SURE YOU BUY YOUR FEED FROM REPUTABLR
FEEDMILLS AND "
        @6,2 SAY " ENSURE THAT IT CONTAINS 0.70% AND 0.35% OF CALCIUM
AND PHOSPHORUS "
        @7,2 SAY " RESPECTIVELY "
        @8,2 SAY B1
        @9,2 SAY B2
        @10,2 SAY B3
        @11,2 SAY C1
        @12,2 SAY C2
        @13,2 SAY C3
        @14,2 SAY C4
        @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
      CASE (( REPLY3 >14 .AND. REPLY3 <= 20 ) .AND. ( REPLY2 = "NO" ))
.AND.( REPLY2 = "N" )
        CLEAR
        @3,20 SAY M12
        @5,2 SAY " 1.ENSURE THAT YOU PRIVIDE 0.6% AND 0.3% OF CALCIUM
AND "
        @6,2 SAY " PHOSPHORUS RESPECTIVELY "
        @8,2 SAY B1
        @9,2 SAY B2
        @10,2 SAY B3
```

```
        @11,2 SAY C1
        @12,2 SAY C2
        @13,2 SAY C3
        @14,2 SAY C4
        @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
      CASE (( REPLY3 >14 .AND. REPLY3 < = 20 ) .AND. ( REPLY2 = "NO" ))
.AND.( REPLY4 = "N" )
        CLEAR
        @3,20 SAY M12
        @5,2 SAY " 1. BUY YOUR FEED FROM REPUTABLE FEEDMILL AND
ENSURE THAT "
        @6,2 SAY " IT CONTAINS 0.60% AND 0.30% CALCIUM AND
PHOSPHORUS RESPECTIVELY "
        @8,2 SAY B1
        @9,5 SAY B2
        @10,2 SAY B3
        @11,2 SAY C1
        @12,2 SAY C2
        @13,2 SAY C3
        @14,2 SAY C4
        @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
      ENDCASE
      CLEAR
      @10,10 SAY M13
      @11,10 SAY M14
      @12,10 SAY M15
      @20,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      DO WHILE .T.
        RESPONSE9 = " "
        CLEAR
        @10,10 SAY M16
        @11,10 SAY M17
```

```
      @12,10 SAY KONS4
      @12,60 GET RESPONSE9 PICT "!"
      READ
      IF RESPONSE9 = "Y" .OR. RESPONSE9 = "N"
        EXIT
      ELSE
        CLEAR
        @ 10,10 SAY KONS5
        @24,10 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ "
To Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        LOOP
      ENDIF
    ENDDO
    IF RESPONSE9 = "Y"
      LOOP
      CLEAR
    ELSE
      EXIT
    ENDIF
  ENDDO
SET TALK ON
RETURN

PROC CCD
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        CRAZY CHICK DISEASE (ENCEPHALOMALACIA)        "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @12,10 SAY M11
  @14,10 SAY " GIVE 300 I.U OF VITAMIN E SINGLE DOSE PER BIRD "
```

```
  @15,10 SAY "   IMMEDIATELY IN THE FEED "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M12
  @11,10 SAY " 1. USE ONLY STABALIZED FAT IN THE FEED "
  @12,10 SAY " 2. ADD A CHEMICAL ANTI-OXIDANT IF THE FEED"
  @13,10 SAY " IS TO BE STORED FOR OVER 2 WEEKS. "
  @14,10 SAY " 3. GUIDE AGAINST HIGH TEMPERATURES AND HUMIDITY "
  @15,10 SAY " AS THEY ACCENTUATE DESTRUCTION OF VITAMIN E "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE12 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @13,10 SAY KONS4
    @13,50 GET RESPONSE12 PICT "!"
    READ
    IF RESPONSE12 = "Y" .OR. RESPONSE12 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
```

```
    SET CONSOLE ON
    LOOP
   ENDIF
  ENDDO
  IF RESPONSE12 = "Y"
   LOOP
   CLEAR
  ELSE
   EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC VITED
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "       VITAMIN  E  DEFICIENCY        "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " GIVE 300 I.U OF VITAMIN E SINGLE DOSE PER BIRD "
  @16,10 SAY " IMMEDIATELY IN THE FEED "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @9,10 SAY M12
  @11,10 SAY " 1. USE ONLY STABALISED FAT IN THE FEED "
  @12,10 SAY " 2. ADD A CHEMICAL ANTI-OXIDANT IF FEED IS TO BE "
  @13,10 SAY " STORED FOR OVER 2 WEEKS "
  @14,10 SAY " 3. GUIDE AGAINST HIGH TEMPERATURES AND HUMIDITY "
```

```
  @15,10 SAY " AS THEY ACCENTUATE DESTRUCTION OF VITAMIN E "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE3 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @12,10 SAY KONS4
    @12,60 GET RESPONSE3 PICT "!"
    READ
    IF RESPONSE3 = "Y" .OR. RESPONSE3 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE3 = "Y"
    LOOP
    CLEAR
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
```

```
RETURN

PROC CTP
SET TALK OFF
CLEAR
DO WHILE .T.
 CLEAR
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,7 SAY "          CURL TOE PARALYSIS          "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M9
 @11,10 SAY M10
 @12,10 SAY M11
 DO WHILE .T.
  REPLY2 = " "
  CLEAR
  @10,10 SAY " IS THE PARALYSIS OF THE SICK BIRDS VERY SEVERE ? "
  @11,10 SAY KONS4
  @11,60 GET REPLY2 PICT "!"
  READ
  IF REPLY2 = "Y" .OR. REPLY2 = "N"
   EXIT
  ELSE
   CLEAR
   @10,10 SAY KONS5
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   LOOP
 ENDIF
 ENDDO
 IF REPLY2 = "Y"
  CLEAR
  @8,20 SAY M11
  @10,10 SAY " TREATMENT OF THE AFFECTED BIRDS IS NOT ADVISABLE "
```

```
   @11,10 SAY " AS THE PROGNOSIS IS BAD "
  ELSE
    CLEAR
    @8,20 SAY M11
    @10,10 SAY " GIVE RIBOFLAVIN SUPPLEMENT SUCH AS YEAST IN THEIR
FEED "
    @11,10 SAY " FOR 2 WEEKS "
  ENDIF
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  DO WHILE .T.
    CLEAR
    REPLY3 = " "
    @12,10 SAY " DO YOU COMPOUND YOUR FEED LOCALLY ? "
    @13,10 SAY KONS4
    @13,60 GET REPLY3 PICT "!"
    READ
    IF REPLY3 = "Y" .OR. REPLY3 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF REPLY3 = "Y"
    CLEAR
    @8,10 SAY M12
    @10,10 SAY " 1. SINCE YOU COMPOUND YOUR FEED,ENSURE THAT YOU
PROVIDE "
    @11,10 SAY " 3.60mg/KG OF RIBOFLAVIN IN YOUR COMPOUNDED FEED FOR
0-6 WEEKS "
    @12,10 SAY " OLD BIRDS,1.8mg/KG FOR 6-20 WEEKS OLD,2.20mg/KG FOR
LAYERS "
    @13,10 SAY " AND 3.80mg/KG FOR BREEDERS "
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
```

```
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
  ELSE
   CLEAR
   @8,10 SAY M12
   @10,10 SAY " BUY YOUR FEED FROM REPUTABLE FEEDMILLS SINCE YOU
DONT "
   @11,10 SAY " COMPOUND YOUR FEED LOCALLY "
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
  ENDIF
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  DO WHILE .T.
   RESPONSE6 = " "
   CLEAR
   @10,10 SAY M16
   @11,10 SAY M17
   @12,10 SAY KONS4
   @12,50 GET RESPONSE6 PICT "@!"
   READ
   IF RESPONSE6 = "Y" .OR. RESPONSE6 = "N"
    EXIT
   ELSE
    CLEAR
    @10,10 SAY KONS5
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    LOOP
```

```
   ENDIF
  ENDDO
  IF RESPONSE6 = "Y"
    LOOP
    CLEAR
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC P
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY    "       PEROSIS                "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @12,10 SAY M11
  @13,10 SAY "1.NO TREATMENT BUT ONLY CONTROL MEASURES"
  @14,10 SAY "  TO FORESTALL FUTURE OCCURRENCE"
  WAIT
  CLEAR
  @10,10 SAY M12
  @12,10 SAY "1.ENSURE THAT YOUR POULTRY FEED CONTAIN"
  @13,10 say "  30-40 mg/kg OF MANGANESE"
  @14,10 SAY "2.ENSURE THAT THE FEED DOES NOT CONTAIN"
  @15,10 SAY "  EXCESS CALCIUM AND PHOSPHORUS"
  @16,10 SAY "3.NOTE THAT CALCIUM INTAKE MAY BE EXCESSIVE IF "
  @17,10 SAY "  THE SUPPLEMENTS ARE PROVIDED FREE CHOICE OR"
  @18,10 SAY "  WHEN MEAT MEAL OR MEAT AND BONE MEAL IS USED"
  @19,10 SAY "  AS THE PRINCIPAL SOURCE OF PROTEIN"
  @20,10 SAY " 4.YOUR POULYTR FEED SHOULD CONTAIN ADEQUATE "
  @21,10 SAY "   LEVELS OF MANGANESE,CHOLINE,NIACIN,BIOTIN "
```

```
 @22,10 SAY "  AND FOLIC ACID"
 WAIT
 CLEAR
 @10,10 SAY M13
 @11,10 SAY M14
 @12,10 SAY M15
 WAIT
 DO WHILE .T.
  CLEAR
  RESPONSE8 = " "
  @10,10 SAY M16
  @11,10 SAY M17
  @12,10 SAY KONS4
  @12,50 GET RESPONSE8 PICT "@!"
  READ
  IF RESPONSE8 = "Y" .OR. RESPONSE8 = "N"
   EXIT
  ELSE
   CLEAR
   @10,10 SAY "YOU ARE TO ENTER Y OR N ONLY"
   WAIT
   LOOP
  ENDIF
 ENDDO
 IF RESPONSE8 = "Y"
  CLEAR
  LOOP
 ELSE
  EXIT
 ENDIF
ENDDO
SET TALK ON
RETURN

PROC FTYPHOID
SET TALK OFF
F1 = " 2. DISPOSE VERY SICK AND DEAD BIRDS "
F2 = " 3. ROUTINE TESTING BY TUBE AGGLUTINATION OF BREEDING "
F3 = " STOCK TO ASSURE FREEDOM FROM INFECTION.DISPOSE OFF THE "
F4 = " POSITIVE REACTORS "
E1 = " 4. VACCINATE BIRDS AT 9 - 10 WEEKS BEFORE NATURAL EXPOSURE "
E2 = " OCCURS WITH VACCINE MADE FROM S.gallinarum (9R)"
E3 =  "                          - ----------      "
CLEAR
```

```
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,7 SAY "        FOWL TYPHOID/PARATYPHOID          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " GIVE FURAZOLIDONE AT 0.022% TO 0.04% IN THE FEED "
  @16,9 SAY "   FOR 10 DAYS "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    REPLY7 = "  "
    @10,10 SAY " ARE YOU A BREEDER OR JUST A POULTRY FARMER ? "
    @11,10 SAY " i.e just raising broilers or layers or cockcrels "
    @12,10 SAY " ENTER BR FOR BREEDER OR PF FOR ORDINARY POULTRY
FARMER "
    @12,70 GET REPLY7 PICT "@!"
    READ
    IF REPLY7 = "BR" .OR. REPLY7 = "PF"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY " ENTER BR OR PF ONLY "
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF REPLY7 = "BR"
```

```
   CLEAR
   @8,20 SAY M12
   @10,10 SAY " 1. ENSURE GOOD SANITARY MEASURES IN THE HATCHERY "
   @11,10 SAY " AND INCUBATOR SINCE THERE IS NO SINGLE ANTIBIOTIC "
   @12,10 SAY " OR ANTIBACTERIAL THAT CAN ELIMINATE THE DISEASE IN "
   @13,10 SAY " A FLOCK "
   @14,10 SAY F1
   @15,10 SAY F2
   @16,10 SAY F3
   @17,10 SAY F4
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   @8,20 SAY M12
   @10,10 SAY E1
   @11,10 SAY E2
   @12,10 SAY E3
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   DO ALIYU
   CLEAR
   IF NOTU = "Y"
     DO VACC
     @24,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
     SET CONSOLE OFF
     WAIT
     SET CONSOLE ON
   ENDIF
  ELSE
   CLEAR
   @8,20 SAY M12
   @10,10 SAY F1
   @11,10 SAY F2
   @12,10 SAY F3
   @13,10 SAY F4
   @14,10 SAY E1
```

```
   @15,10 SAY E2
   @16,10 SAY E3
   WAIT
   DO ALIYU
   CLEAR
   IF NOTU = "Y"
    DO VACC
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
   ENDIF
  ENDIF
  WAIT
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
   RESPONSE16 = " "
   @10,10 SAY M16
   @11,10 SAY M17
   @12,10 SAY KONS4
   @12,50 GET RESPONSE16 PICT "@!"
   READ
   IF RESPONSE16 = "Y" .OR. RESPONSE16 = "N"
    EXIT
   ELSE
    CLEAR
    @10,10 SAY KONS5
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    LOOP
   ENDIF
```

```
  ENDDO
  IF RESPONSE16 = "Y"
    CLEAR
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC ICORYZA
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        INFECTIOUS CORYZA          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " 1. GIVE SULFATHIOZOLE 0.5 kg IN 100 kg OF FEED FOR 5 - 10
DAYS "
  @16,10 SAY "                        OR "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY " 2. COMBINATION OF SULFANAMIDE AND TRIMETHOPRIM e.g
SEPTRIM FOR"
  @11,10 SAY "    5-10 DAYS IN FEED"
  @12,10 SAY "                        OR  "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
```

```
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY " 3. INJECTION OF STREPTOMYCIN 0.1-0.2gm
INTRAMUSCULARLY FOR 5 DAYS"
 @11,10 SAY "                          OR   "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY "ERYTHROMYCIN AND OXYTETRACYCLINE ARE EFFECTIVE"
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY "                            NB"
 @12,10 SAY "DON'T USE SULFANAMIDES (i.e 1 & 2 EARLIER) IN LAYERS "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M12
 @11,10 SAY " 1. PRACTICE ALL IN \ ALL OUT PROGRAMME "
 @12,10 SAY " 2. GOOD HUSBANDRY AND MANAGEMENT"
 @13,10 SAY " 3. ENSURE EARLY DIAGNOSIS TO ISOLATE SICK ONES"
 @14,10 SAY " 4. OBTAIN YOUR REPLACEMENT BIRDS FROM INFECTIOUS
CORYZA"
 @15,10 SAY "    FREE FLOCK OR RAISE YOUR REPLACEMENT YOURSELF"
 @16,10 SAY " 5. VACCINATE PULLETS TO BE PLACED IN A FARM THAT HAS
"
 @17,10 SAY "    HISTORY OF INFECTIOUS CORYZA IN THREE WEEKS BEFORE
"
 @18,10 SAY "    THE DISEASE USUALLY BREAK OUT."
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
```

```
  CLEAR
  DO ALIYU
  IF NOTU = "Y"
    DO VACC
    @24,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ENDIF
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE19 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @12,10 SAY KONS4
    @12,60 GET RESPONSE19 PICT "!"
    READ
    IF RESPONSE19 = "Y" .OR. RESPONSE19 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE19 = "Y"
    CLEAR
    LOOP
  ELSE
```

```
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC CRD
SET TALK OFF
CLEAR
I1 = "ENSURE PROMPT DIAGNOSIS OF THE DISEASE IN A "
I2 = "FLOCK AND INSTITUTE IMMEDIATE TREATMENT AS "
I3 = "DIRECTED EARLIER IN THE TREATMENT"
J1 = "VACCINATION AT 10-14 WEEKS PREVENT EGG "
J2 = "LOSSES ALTHOUGH IT DOES NOT PREVENT "
J3 = "INFECTION "
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,7 SAY "        CHRONIC RESPIRATORY DISEASES          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " GIVE INJECTION OF TYLOSIN OR OXYTETRACYLINE OR
SPECTINOMYCINE"
  @16,10 SAY " OR ERYTHROMYCINE OR CHLORYTETRACYLINE
INTRAMUSCULARLY  "
  @17,10 SAY " FOLLOWED BY GIVING ANY OF THEM IN THE FEED FOR 5-7
DAYS"
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    REPLY9 = " "
    @10,10 SAY " ARE YOUR BIRDS BREEDERS ?."
```

```
   @11,10 SAY KONS4
   @11,50 GET REPLY9 PICT "!"
   READ
   IF REPLY9 = "Y" .OR. REPLY9 = "N"
    EXIT
   ELSE
    CLEAR
    @10,10 SAY KONS5
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    LOOP
   ENDIF
  ENDDO
  IF REPLY9 = "Y"
   CLEAR
   @8,10 SAY M12
   @10,10 SAY "1. TEST YOUR BREEDING STOCK REGULARLY BY SERUM"
   @11,10 SAY "   AGGLUTINATION TEST WITH THE AIM OF MAINTANING"
   @12,10 SAY "   ONLY SERO-NEGATIVE STOCK"
   @13,10 SAY "2. TREAT EGGS WITH TYLOSIN OR HEAT TO ELIMINATE EGG"
   @14,10 SAY "   TRANSMISSION TO PROGENY (SEE A VET.)"
   @15,10 SAY I1
   @16,10 SAY I2
   @17,10 SAY I3
   @18,10 SAY J1
   @19,10 SAY J2
   @20,10 SAY J3
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   DO ALIYU
   IF NOTU = "Y"
    DO VACC
    @24,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
```

```
    ENDIF
   ELSE
    CLEAR
    @8,10 SAY M12
    @10,10 SAY I1
    @11,10 SAY I2
    @12,10 SAY I3
    @13,10 SAY J1
    @14,10 SAY J2
    @15,10 SAY J3
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
   ENDIF
   CLEAR
   @10,10 SAY M13
   @11,10 SAY M14
   @12,10 SAY M15
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   DO WHILE .T.
    RESPONSE20 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @12,10 SAY KONS4
    @12,50 GET RESPONSE20 PICT "!"
    READ
    IF RESPONSE20 = "Y" .OR. RESPONSE20 = "N"
     EXIT
    ELSE
     CLEAR
     @10,10 SAY KONS5
     @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
     SET CONSOLE OFF
     WAIT
     SET CONSOLE ON
     LOOP
```

```
   ENDIF
  ENDDO
  IF RESPONSE20 = "Y"
   CLEAR
   LOOP
  ELSE
   EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC TB
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        TUBERCULOSIS          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " TREATMENT IS CONSIDERED UN-ECONOMICAL AND
THEREFORE "
  @16,10 SAY "   NOT ADVISABLE "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @9,10 SAY M12
  @11,10 SAY " 1. CARRYOUT ROUTINE TEST ABD DESTROY THE WHOLE  "
  @12,10 SAY "    FLOCK IF THERE IS SIGNIFICANT NO. OF POSITIVE
REACTORS "
  @13,10 SAY " 2. AFTER DESTRUCTION, ANY HOUSING FACILITY SHOULD BE
"
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 @14,10 SAY "    THOROUGHLY CLEAN AND DISINFECTED USING CRESYLIC
COMPOUNDS"
 @15,10 SAY "3.  REPLACE FLOW OF THE POUTRY HOUSE WITH SAND FROM
FREE AREAS"
 @16,10 SAY "4.  ALL OPPONENT IN THE POUTRY HOUSE SHOULD BE
SCREENED AGAINST "
 @17,10 SAY "    WILD BIRDS AND CLOSED IF THEY ARE FOUND"
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M13
 @11,10 SAY M14
 @12,10 SAY M15
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 DO WHILE .T.
   CLEAR
   RESPONSE21 = " "
   @10,10 SAY M16
   @11,10 SAY M17
   @12,10 SAY KONS4
   @12,50 GET RESPONSE21 PICT "!"
   READ
   IF RESPONSE21 = "Y" .OR. RESPONSE21 = "N"
     EXIT
   ELSE
     CLEAR
     @10,10 SAY KONS5
     @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
     SET CONSOLE OFF
     WAIT
     SET CONSOLE ON
     LOOP
   ENDIF
 ENDDO
 IF RESPONSE21 = "Y"
  CLEAR
```

```
   LOOP
  ELSE
   EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC NCD
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        NEWCASTLE DISEASE          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " NO SPECIFIC TREATMENT BUT ONLY PREVENTIVE MEASURES "
  @16,10 SAY " TO ALLOW THE BIRDS OVERCOME THE DISEASE THEMSELVES
 "
  @17,10 SAY " AND THE PREVENTIVE MEASURES ARE "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @9,10 SAY M12
  @11,10 SAY " 1. VACCINATE YOUR BIRDS AT 1 - 4 DAYS OLD WITH I/O
VACCINE  "
  @12,10 SAY " AT 2 - 3 WEEKS WITH LASOTA VACCINE AND AT 6 WEEKS
WITH KAMOROV "
  @13,10 SAY " VACCINE.RE-VACCINATE BREEDERS BEFORE THEY START EGG
LAYING "
  @14,10 SAY " 2. ENSURE GOOD HYGIENE AND HUSBANDRY PRACTICES "
  @15,10 SAY " 3. GIVE GLUCOSE IN THEIR DRINKING WATER AND AVOID ALL
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STRESS FACTORS "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO ALIYU
  IF NOTU = "Y"
    DO VACC
    @24,10 SAY " Press Any Key To Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ENDIF
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  DO WHILE .T.
     CLEAR
     RESPONSE25 = " "
     @10,10 SAY M16
     @11,10 SAY M17
     @12,10 SAY KONS4
     @12,50 GET RESPONSE25 PICT "!"
     READ
     IF RESPONSE25 = "Y" .OR. RESPONSE25 = "N"
       EXIT
     ELSE
       CLEAR
       @10,10 SAY KONS5
       @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
       SET CONSOLE OFF
       WAIT
       SET CONSOLE ON
       LOOP
     ENDIF
```

```
  ENDDO
  IF RESPONSE25 = "Y"
    CLEAR
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC ILT
SET TALK OFF
CLEAR
DO WHILE .T.
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,7 SAY "        INFECTIOUS LARYNGO-TRACHEATIS          "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M9
 @11,10 SAY M10
 @13,10 SAY M11
 @15,10 SAY "1.THERE IS NO SPECIFIC TREATMENT AGAINST THE VIRUS BUT
"
 @16,10 SAY " ANTIBIOTICS/ANTIBACTERIALS LIKE
OXYTETRACYCLINE,ERYTHROMYCIN "
 @17,10 SAY " SULFANAMIDES WILL REDUCE SECONDARY BACTERIAL
INFECTIONS "
 @18,10 SAY " AND THUS LOWER THE MORTALITY RATE "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @9,10 SAY M12
 @11,10 SAY " VACCINATE YOUR BIRDS AGAINTS INFECTIOUS
LARYNGO-TRACHEATIS  "
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  @12,10 SAY " AT 4 WEEKS OLD.   "
  @13,10 SAY "                NB "
  @14,10 SAY " USE INTRA -OCCULAR ROUTE "
  @15,10 SAY " 2. DO NOT RE-STOCK THE PEN FOR 6 - 8 WEEKS AFTER "
  @16,10 SAY " DISPOSING THE FLOCK "
  @17,10 SAY " 3.IF THE DISEASE IS SO SEVERE,SLAUGHTER AFFECTED BIRDS
"
  @18,10 SAY " AND DISPOSE BY INCINERATION "
  @19,10 SAY " 4.ISOLATE ALL IN-CONTACT GROUP AND REDUCE,DUST,KEEP
THE "
  @20,10 SAY " BIRDS QUITE AND TRY EXPECTORANTS "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO ALIYU
    IF NOTU = "Y"
      DO VACC
      @24,10 SAY " Press Any Key To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
    ENDIF
   CLEAR
   @10,10 SAY M13
   @11,10 SAY M14
   @12,10 SAY M15
   @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   DO WHILE .T.
     CLEAR
     RESPONSE27 = " "
     @10,10 SAY M16
     @11,10 SAY M17
     @12,10 SAY KONS4
     @12,50 GET RESPONSE27 PICT "!"
     READ
     IF RESPONSE27 = "Y" .OR. RESPONSE27 = "N"
       EXIT
```

```
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE27 = "Y"
    CLEAR
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC IB
SET TALK OFF
CLEAR
DO WHILE .T.
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,7 SAY "        INFECTIOUS BRONCHITIS          "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M9
 @11,10 SAY M10
 @13,10 SAY M11
 @15,10 SAY "1.THERE IS NO SPECIFIC TREATMENT AGAINST THE VIRUS BUT
"
 @16,10 SAY " ANTIBIOTICS/ANTIBACTERIALS LIKE
OXYTETRACYCLINE,ERYTHROMYCIN "
 @17,10 SAY " SULFANAMIDES WILL REDUCE SECONDARY BACTERIAL
INFECTIONS "
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  @18,10 SAY " AND THUS LOWER THE MORTALITY RATE "
  @19,10 SAY " 2. INCREASE THE TEMPERATURE IN THE PEN AND UNDER THE
HOVER "
  @20,10 SAY " BY 3 - 4 DEGREE CENTIGRADE TO HELP LOWER MORTALITY "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @9,10 SAY M12
  @11,10 SAY " VACCINATE YOUR BIRDS AGAINTS INFECTIOUS BRONCHITIS  "
  @12,10 SAY " AT 1 - 14 DAYS OLD.   "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO ALIYU
    IF NOTU = "Y"
      DO VACC
      @24,10 SAY " Press Any Key To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
    ENDIF
    CLEAR
    @10,10 SAY M13
    @11,10 SAY M14
    @12,10 SAY M15
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    DO WHILE .T.
      CLEAR
      RESPONSE26 = " "
      @10,10 SAY M16
      @11,10 SAY M17
      @12,10 SAY KONS4
      @12,50 GET RESPONSE26 PICT "!"
      READ
```

```
    IF RESPONSE26 = "Y" .OR. RESPONSE26 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE26 = "Y"
    CLEAR
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC MAREK
SET TALK OFF
CLEAR
DO WHILE .T.
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,10 SAY "        MAREK DISEASE         "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M9
 @11,10 SAY M10
 @13,10 SAY M11
 @15,10 SAY "1.THERE IS NO SPECIFIC TREATMENT AGAINST THE VIRUS BUT
"
 @16,10 SAY " ANTIBIOTICS/ANTIBACTERIALS LIKE
OXYTETRACYCLINE,ERYTHROMYCIN "
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  @17,10 SAY " SULFANAMIDES WILL REDUCE SECONDARY BACTERIAL
INFECTIONS "
  @18,10 SAY " AND THUS LOWER THE MORTALITY RATE "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @8,10 SAY M12
  @11,10 SAY " VACCINATE YOUR BIRDS AGAINTS MAREK DISEASE AT  "
  @12,10 SAY " DAY OLD  "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO ALIYU
    IF NOTU = "Y"
      DO VACC
      @24,10 SAY " Press Any Key To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
    ENDIF
    CLEAR
    @10,10 SAY M13
    @11,10 SAY M14
    @12,10 SAY M15
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    DO WHILE .T.
      CLEAR
      RESPONSE31 = " "
      @10,10 SAY M16
      @11,10 SAY M17
      @12,10 SAY KONS4
      @12,50 GET RESPONSE31 PICT "!"
      READ
      IF RESPONSE31 = "Y" .OR. RESPONSE31 = "N"
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```
      EXIT
     ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
     ENDIF
   ENDDO
   IF RESPONSE31 = "Y"
    CLEAR
    LOOP
   ELSE
    EXIT
   ENDIF
ENDDO
SET TALK ON
RETURN

PROC CDIOSIS
SET TALK OFF
CLEAR
DO WHILE .T.
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,10 SAY "       CAECAL COCCIDIOSIS         "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M9
 @11,10 SAY M10
 DO WHILE .T.
  @13,10 SAY M11
  @15,10 SAY " 1.GIVE AMPROLIUM AT 0.0125 TO 0.025% IN FEED FOR 5-7
DAYS "
  @16,10 SAY "                    OR  "
  @17,10 SAY " 2.GIVE A MIXTURE OF AMPROLIUM AND ETHOPABATE AT
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0.0125-0.025 "
   @18,10 SAY " AND 0.0004-0.004% IN FEED FOR 5-7 DAYS "
   @19,10 SAY "                              OR "
   @20,10 SAY " 3.GIVE CHLORTERACYCLINE AT 0.022% IN FEED FOR 5-7
DAYS "
   @22,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   @13,10 SAY M11
   @10,10 SAY "                              OR "
   @11,10 SAY " 4.GIVE FURAZOLIDONE AT 0.0055% IN FEED FOR 5-7 DAYS "
   @12,10 SAY "                              OR "
   @13,8 SAY " 5.GIVE CLOPIDOL OR METICLOPIDOL AT 0.0125-0.0.025% IN
FEED FOR 5-7 DAYS "
   @14,10 SAY "                              OR "
   @15,10 SAY " 6.GIVE NICARBAZINE AT 0.0125% IN FEED FOR 5-7 DAYS "
   @16,10 SAY "                              OR "
   @17,10 SAY " 7.GIVE NITROFURAZONE AT 0.005% IN FEED FOR 5-7 DAYS "
   @18,10 SAY "                              OR "
   @19,10 SAY " 8.GIVE OXYTETRACYCLINE AT 0.022% IN FEED FOR 5-7
DAYS "
   @22,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   @10,10 SAY " 9.GIVE SULFAQUINOXALINE AT 0.015-0.025% IN FEED FOR
5-7 DAYS "
   @11,10 SAY "                              OR "
   @12,10 SAY " 10.GIVE SULFADIMETHOXINE AND ORMETROPRIM AT 0.0125
AND 0.0075% "
   @13,10 SAY "    IN FEED RESPECTIVELY FOR 5-7 DAYS "
   @22,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   @8,10 SAY M12
   @11,10 SAY " 1. IF YOU HAVE THE MEANS MAINTAIN YOUR POULTRY AT
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ALL TIMES ON WIRE "
   @12,10 SAY "    FLOORS TO SEPERATE BIRDS FROM THEIR DROPPINGS "
   @13,10 SAY " 2. USE A COCCIDIOSTAT (AS OUTLINED IN THE TREATMENT
PART ) "
   @14,10 SAY " 3.VACCINATE YOUR BIRDS WITH A STANDARDIZED DOSES
OF SPORULATED "
   @15,10 SAY " OOCYST IN DRINKING WATER DURING FIRST 2 WEEKS OF
LIFE "
   @22,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
   SET CONSOLE OFF
   WAIT
   SET CONSOLE ON
   CLEAR
   DO WHILE .T.
    REPLY13 = " "
    @10,10 SAY " DO YOU WANT TO VIEW THE TREATMENT PART AGAIN ? "
    @11,10 SAY KONS4
    @11,50 GET REPLY13 PICT "!"
    READ
    IF REPLY13 = "Y" .OR. REPLY13 = "N"
     EXIT
    ELSE
     CLEAR
     @10,10 SAY KONS5
     @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
     SET CONSOLE OFF
     WAIT
     SET CONSOLE ON
      LOOP
    ENDIF
   ENDDO
   IF REPLY13 = "Y"
    LOOP
   ELSE
    EXIT
   ENDIF
 ENDDO
 WAIT
 CLEAR
 @10,10 SAY M13
 @11,10 SAY M14
 @12,10 SAY M15
```

```
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE36 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @13,10 SAY KONS4
    @13,50 GET RESPONSE36 PICT "!"
    READ
    IF RESPONSE36 = "Y" .OR. RESPONSE36 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE36 = "Y"
    CLEAR
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC HISTO
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        HISTOMONIASIS          "
```

```
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @13,10 SAY M11
  @15,10 SAY " 1.GIVE FURAZOLIDONE AT 0.022% IN FEED FOR 2-3 WEEKS "
  @16,10 SAY "                OR "
  @17,10 SAY " 2.GIVE DIMETRIDAZOLE AT 0.06-0.08% IN FEED FOR 7 DAYS  "
  @18,10 SAY "   OR 0.05% IN WATER FOR 6 DAYS "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @8,10 SAY M12
  @11,10 SAY " 1.ENSURE STRICT SANITATION "
  @12,10 SAY " 2.AVOID RANGING CHICKENS AND TURKEYS TOGETHER "
  @13,10 SAY " 3.GIVE NITARSONE AT 0.01875% IN FEED FOR "
  @14,10 SAY "   5 DAYS BEFORE MARKETING OR FURAZOLIDONE "
  @15,10 SAY " AT 0.011% IN FEED CONTINOUSLY OR DIMETRIDAZOLE "
  @16,10 SAY " AT 0.015%-0.02% OF FEED CONTINOUSLY UNTILL 5 DAYS "
  @17,10 SAY " BEFORE MARKETING "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE39 = " "
```

```
    @10,10 SAY M16
    @11,10 SAY M17
    @13,10 SAY KONS4
    @13,50 GET RESPONSE39 PICT "!"
    READ
    IF RESPONSE39 = "Y" .OR. RESPONSE39 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE39 = "Y"
    CLEAR
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC HELMINTH
SET TALK OFF
CLEAR
DO WHILE .T.
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        HELMINTHIASIS          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
```

```
  @13,10 SAY M11
  @15,10 SAY " 1.GIVE PIPERRAZINE AT 50-100mg/BIRD AS A SINGLE DOSE "
  @16,10 SAY "   OR 0.2-0.4% IN FEED OR AT 0.1-0.2% IN DRINKING WATER "
  @17,10 SAY "                  OR "
  @18,10 SAY " 2.GIVE PHENOTHIAZINE AT 0.5g/BIRD SINGLE DOSE "
  @19,10 SAY "                  OR "
  @21,10 SAY " 3. GIVE PHENOTHIAZINE 0.5-0.56% AND PIPERAZINE 0.11%
SINGLE DOSE "
  @22,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @13,10 SAY M11
  @10,10 SAY "                  OR "
  @11,10 SAY " 4.GIVE HYGROMYCIN AT 0.00088-0.00132% IN FEED "
  @12,10 SAY "                  OR "
  @13,10 SAY " 5.GIVE COUMAPHOUS 0.004% IN FEED FOR 10-14 DAYS "
  @14,10 SAY "   FOR REPLACEMENT BIRDS AND 0.003% IN FEED FOR FOR "
  @15,10 SAY "   14 DAYS FOR LAYERS "
  @16,10 SAY "                   OR "
  @17,10 SAY " 6.GIVE BUTYNORATE 0.07-0.14% IN FEED FOR TAPEWORMS "
  @18,10 SAY "                   OR "
  @19,10 SAY " 7.GIVE PYRANTEL
TARTRATE,MEBENDAZOLE,LEVAMISOLE,THIABENDAZOLE "
  @20,10 SAY "   HEXACHLOROPHANE AND NICLOSAMIDE ARE EFFECTIVE "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @8,10 SAY M12
  @11,10 SAY "1. IMPROVE SANITARY CONDITIONS  "
  @12,10 SAY "2. APPLICATION OF APPROVED INSECTICIDES TO LITTER "
  @13,10 SAY "   WHEN PREMESIS ARE UN-OCCUPIED "
  @14,10 SAY " 3. AVOID MIXING BIRDS OF DIFFERENT AGES AND SPECIES "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
```

```
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE40 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @13,10 SAY KONS4
    @13,50 GET RESPONSE40 PICT "!"
    READ
    IF RESPONSE40 = "Y" .OR. RESPONSE40 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE40 = "Y"
    LOOP
    CLEAR
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC ECTO
SET TALK OFF
CLEAR
DO WHILE .T.
CLEAR
```

```
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        ECTOPARASITISM          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @13,10 SAY M18
  @15,10 SAY " FOR TICKS,BEDBUGS,FLEAS,LICE,MITES "
  @16,10 SAY "1. DUST YOUR BIRDS WITH
CARBARYL,COUMAPHOS,MALATHION,STIRFOS "
  @17,10 SAY " OR A MIXTURE OF STIRFOS AND DICHOLORVOS AND SPREAD
OVER THE LITTER "
  @18,10 SAY " FOR SCALY LEG MITE,DIP THE LEG IN KEROSINE,CRUDE
OIL,MINERAL OIL"
  @19,10 SAY " OR LINSEED OIL FOR FLIES AND MOSQUITOES"
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @13,10 SAY M18
  @11,10 SAY "1.WIRE MESH YOUR POULTRY PEN TO PREVENT FLIES "
  @12,10 SAY "  AND MOSQUITOES FROM ENTERING THE POULTRY HOUSE "
  @13,10 SAY " 2.CLEAR BUSHES AROUND THE POULTRY HOUSE AND ALL
DIRT "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
```

```
  CLEAR
  DO WHILE .T.
    RESPONSE45 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @13,10 SAY KONS4
    @13,50 GET RESPONSE45 PICT "!"
    READ
    IF RESPONSE45 = "Y" .OR. RESPONSE45 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      CLEAR
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE45 = "Y"
    LOOP
    CLEAR
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC CANALISM
SET TALK OFF
CLEAR
DO WHILE .T.
  CLEAR
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        CANABALISM         "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
```

```
  WAIT
  SET CONSOLE ON
  CLEAR
  @12,10 SAY M18
  @14,10 SAY "1.TRIM THE BEAKS OF YOUR BIRDS AND CAUTERIZE TO
PREVENT BLEEDING "
  @15,10 SAY "2.ENSURE GOOD HUSBANDRY "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    RESPONSE44 = " "
    @10,10 SAY M16
    @11,10 SAY M17
    @13,10 SAY KONS4
    @13,50 GET RESPONSE44 PICT "!"
    READ
    IF RESPONSE44 = "Y" .OR. RESPONSE44 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  IF RESPONSE44 = "Y"
    LOOP
```

```
   CLEAR
  ELSE
   EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC FATTY
SET TALK OFF
CLEAR
DO WHILE .T.
  CLEAR
  @10,10 SAY M6
  @11,10 SAY M7
  @12,10 SAY M8
  @14,10 SAY "        FATTY LIVER SYNDROME          "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M9
  @11,10 SAY M10
  @12,10 SAY M18
  @14,10 SAY " 1. GIVE 1000g OF CHOLINE CHLORIDE,10,000I.U OF VITAMIN
E, "
  @15,10 SAY "    12mg OF VITAMIN B12 AND IKG OF INISITOL PER TONNE OF
"
  @16,10 SAY "    FEED "
  @17,10 SAY " 2. FEED THE BIRDS WITH HIGH PROTEIN (UP TO 20%) DIET "
  @18,10 SAY " 3. ADD 6% OAT HULLS TO THE FEED "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
```

```
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 DO WHILE .T.
  RESPONSE43 = " "
  @10,10 SAY M16
  @11,10 SAY M17
  @13,10 SAY KONS4
  @13,50 GET RESPONSE43 PICT "!"
  READ
  IF RESPONSE43 = "Y" .OR. RESPONSE43 = "N"
    EXIT
  ELSE
    CLEAR
    @10,10 SAY KONS5
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    LOOP
  ENDIF
 ENDDO
 IF RESPONSE43 = "Y"
  LOOP
  CLEAR
 ELSE
  EXIT
 ENDIF
ENDDO
SET TALK ON
RETURN

PROC VACC
set talk off
clear
DO YUMIN
@8,7 SAY "1."
@8,12 SAY "FREEZE DRIED"
@8,29 SAY "VACCINATE AT 1-14"
@8,49 SAY "200 DOSE VIAL TO BE"
@9,12 SAY "NEWCASTLE"
@9,29 SAY "DAY OLD.FOLLOW"
```

```
@9,49 SAY "DISSOLVED IN 10mls OF SALINE"
@10,12 SAY "DISEASE VACCINE"
@10,29 SAY "UP BY N.C.D.V"
@10,49 SAY "GIVE 0.02ML PER DOSE i.e"
@11,12 SAY "(N.C.D.V I/O)"
@11,29 SAY "LASOTA AND"
@11,49 SAY "ABOUT A DROP IN THE EYES."
@13,7 SAY "2."
@13,12 SAY "FREEZE DRIED"
@13,29 SAY "VACCINATE ANYTIME"
@13,49 SAY "200 DOSE VIAL TO BE"
@14,12 SAY "NEWCASTLE"
@14,29 SAY "FROM 3 WEEKS"
@14,49 SAY "DISSOLVED IN 2 LITRES OF"
@15,12 SAY "DISEASE VACCINE"
@15,49 SAY "CHLORINE FREE DRINKING"
@16,12 SAY "LASOTA N.C.D.V.L"
@16,49 SAY "WATER AND ALLOW THE BIRDS"
@17,49 SAY "TO DRINK.THIRST THEM"
@18,49 SAY "BEFORE ADMINISTRATION"
@19,49 SAY "TO ENABLE THEM DRINK"
@20,49 SAY "FAST.AT LEAST 10mls/BIRD"
@21,49 SAY "OF DRINKING WATER IS"
@22,49 SAY "REQUIRED."
SET CONSOLE OFF
@24,20 SAY "Press ENTER Key " + CHR(17) + CHR(196) + CHR(217) + " To
Continue ..."
WAIT
SET CONSOLE ON
CLEAR
DO YUMIN
@8,7 SAY "3."
@8,12 SAY "FREEZE DRIED"
@8,29 SAY "VACCINATE ANYTINE"
@8,49 SAY "200 DOSE VIAL TO BE"
@9,12 SAY "NEWCASTLE"
@9,29 SAY "FROM 6 WEEKS"
@9,49 SAY "DISSOLVED IN 40 mls OF STERILE"
@10,12 SAY "DISEASE VACCINE"
@10,34 SAY " NB/"
@10,49 SAY "WATER OR NORMAL SALINE"
@11,12 SAY "KAMOROV N.C.D.K"
@11,29 SAY "PREVIOUS"
@11,49 SAY "AND INJECT 0.02ml/BIRD I/M"
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```
@12,29 SAY "VACCINATION WITH"
@13,29 SAY "N.C.D.V I/O"
@14,29 SAY "N.C.D.V LASOTA"
@15,29 SAY "IS A MUST"
@17,7 SAY "4."
@17,12 SAY "FREEZE DRIED"
@17,29 SAY "VACCINATE AT 2-3"
@17,49 SAY "400 DOSE VIAL TO BE"
@18,12 SAY "GUMBORU VACCINE"
@18,29 SAY "WEEKS IF BREEDING"
@18,49 SAY "DISSOLVED IN 4 LITRES OF"
@19,12 SAY "I.B.D.V"
@19,29 SAY "STOCK ARE NOT"
@19,49 SAY "DRINKING WATER OR 20ml"
@20,29 SAY "VACCINATED"
@20,49 SAY "OF WATER FOR EYE DROP"
@21,29 SAY "OTHERWISE VACCINATE"
@21,49 SAY "YOU CAN ADD 2.5g OF"
@22,29 SAY "AT 5 WEEKS OLD"
@22,49 SAY "SKIM MILK PER LITRE OF"
SET CONSOLE OFF
@24,20 SAY "Press ENTER Key " + CHR(17)+CHR(196)+CHR(217)+ " To
Continue ..."
WAIT
SET CONSOLE ON
CLEAR
DO YUMIN
@8,49 SAY "WATER IF QUALITY OF THE"
@9,49 SAY "WATER IS DOUBTFULL AND"
@10,49 SAY "ALLOW THE BIRDS TO DRINK"
@11,7 SAY "5."
@11,12 SAY "FREEZE DRIED"
@11,29 SAY "VACCINATE BIRDS"
@11,49 SAY "400 DOSE VIAL TO BE"
@12,12 SAY "POX VACCINAE"
@12,29 SAY "ANYTIME AFTER"
@12,49 SAY "DISSOLVED IN 9ml OF"
@13,12 SAY "(F.P.V)"
@13,29 SAY "3 WEEKS ALTHOUGH"
@13,49 SAY "STERILE WATER OR NORMAL"
@14,29 SAY "6 WEEKS IS"
@14,49 SAY "SALINE AND GIVE STAB"
@15,29 SAY "PREFERRED"
@15,49 SAY "PUNCTURE AT WING WEB"
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```
@16,49 SAY "TWO ON EACH SIDE"
@18,7 SAY "6."
@18,12 SAY "FOWL CHOLERA"
@18,29 SAY "VACCINATE BIRDS"
@18,49 SAY "GIVE 1ml INJECTION"
@19,12 SAY "VACCINE"
@19,29 SAY "FROM 6 WEEKS"
@19,49 SAY "SUBCUTANEOSLY UNDER"
@20,12 SAY "(F.C.V)"
@20,29 SAY "OLD"
@20,49 SAY "THE WING"
SET CONSOLE OFF
@24,20 SAY "Press ENTER Key " + CHR(17)+CHR(196)+CHR(217)+ " To
Continue ..."
WAIT
SET CONSOLE ON
CLEAR
DO YUMIN
@8,7 SAY "7."
@8,12 SAY "FREEZE DRIED"
@8,29 SAY "VACCINATE BIRDS"
@8,49 SAY "DISSOLVE VIAL IN 100ml"
@9,12 SAY "FOWL TYPHOID"
@9,29 SAY "FROM 6 WEEKS"
@9,49 SAY "OF STERILE WATER AND GIVE"
@10,12 SAY "VACCINE F.T.V"
@10,29 SAY "OLD"
@10,49 SAY "1ml INJECTION SUBCUT"
@11,49 SAY "UNDER THE WING"
@13,7 SAY "8."
@13,12 SAY "INFECTIOUS"
@13,29 SAY "VACCINATE BIRDS"
@13,49 SAY "DISSOLVE VIAL IN WATER"
@14,12 SAY "BRONCHITIS"
@14,29 SAY "AT 2-3 WEEKS"
@14,49 SAY "AND ALLOW BIRDS TO"
@15,12 SAY "DISEASE VACCINE"
@15,29 SAY "OLD"
@15,49 SAY "DRINK OR SPRAY (AEROSOL)"
@17,8 SAY "9."
@17,12 SAY "MAREK DISEASE"
@17,29 SAY "VACCINATE AT"
@17,49 SAY "RE-CONSTITUTE AND GIVE"
@18,12 SAY "VACCINE"
```

```
@18,29 SAY "DAY OLD"
@18,49 SAY "SUBCUTANEOUS INJECTION"
@20,7 SAY "10."
@20,12 SAY "INFECTIOUS"
@20,29 SAY "VACCINATE BIRDS"
@20,49 SAY "ADMINISTER VACCINE BY"
@21,12 SAY "LARYNGO-TRACHEATIS"
@21,29 SAY "AT 10-12 WEEKS"
@21,49 SAY "INTRA-OCCULAR EYE DROP"
@22,12 SAY "VACCINE"
@22,29 SAY "OLD"
SET CONSOLE OFF
CLEAR
RETU

PROC ALIYU
SET TALK OFF
CLEAR
DO WHILE .T.
 NOTU = " "
 @10,10 SAY " DO YOU WANT TO SEE VACCINATION CHART(REGIMENT) ? "
 @11,10 SAY KONS4
 @11,60 GET NOTU PICT "!"
 READ
 IF NOTU = "Y" .OR. NOTU = "N"
  EXIT
 ELSE
  CLEAR
  @10,10 SAY KONS5
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  LOOP
 ENDIF
ENDDO
SET TALK ON
RETURN

PROC CHANGE
SET TALK OFF
SET STAT OFF
SET SCOREBOARD OFF
```

```
CLEAR
N = 0
DO WHILE .T.
  AUTH =  SPACE (7)
  DO BEAUTY1
  SET COLOR TO W+/R
  @10,16 SAY " ENTER PERMISSION TO CHANGE PASSWORD "
  SET INTE OFF
  SET COLOR TO R/R
  @10,55 GET AUTH
  SET INTE ON
  READ
  set color to w+/B
  CLEAR
  IF AUTH = "84/1625"
    NPWORD = SPACE (15)
    DO BEAUTY1
    SET COLOR TO W+/R
    @10,16 SAY " Enter Your New PASSWORD Please "
    SET INTE OFF
    SET COLOR TO R/R
    @10,50 GET NPWORD
    READ
    SET COLOR TO W+/B
    CLEAR
    USE SECURITY
    REPL PWORD WITH NPWORD
    EXIT
  ELSE
    SET COLOR TO W+/B
    CLEAR
    N = N + 1
    IF N = 3
      DO WHILE .T.
        DO BEAUTY1
        SET COLOR TO W+/R
        @10,23 SAY " UN-AUTHOURISED CHANGE OF PASSWORD "
        @11,33 SAY " NOT ALLOWED "
        @20,20 SAY " Press ENTER " +CHR(17)+CHR(196)+CHR(217)+ " Key To
Continue... "
        SET CONSOLE OFF
        WAIT
        SET CONSOLE ON
        SET COLOR TO W+/B
```

```
      CLEAR
      LOOP
    ENDDO
   ENDIF
  LOOP
 ENDIF
ENDDO
SET TALK ON
SET INTE ON
SET SCORE ON
SET STAT ON
SET COLOR TO W+/B
USE
RETURN

PROC FCHOLERA
SET TALK OFF
CLEAR
DO WHILE .T.
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,10 SAY "        FOWL CHOLERA   "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @9,10 SAY M9
 @10,10 SAY M10
 @12,20 SAY M11
 @14,10 SAY " 1. GIVE THE SICK BIRDS SULFAQUINOXALINE SODIUM AT
0.033% "
 @15,10 SAY " IN FEED OR DRINKING WATER FOR 10 - 14 DAYS "
 @16,10 SAY  "              NB/                 "
 @17,10 SAY "        YOU CAN USE OTHER SULFA DRUGS LIKE "
 @18,10 SAY "          SULFAMETHAZINE,SULFADIMETHOXINE, "
 @19,10 SAY  "              SULFAMERAZINE              "
 @22,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
```

```
  CLEAR
  @8,20 SAY M11
  @10,10 SAY "                    OR                    "
  @11,10 SAY " 2. YOU MAY GIVE TETRACYCLINE 0.04% IN THE FEED "
  @12,10 SAY " OR BY INTRAMUSCULAR INJECTION "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @10,10 SAY "                    OR                    "
  @11,10 SAY " 3. IF SULFADRUGS IN 1. EARLIER ARE NOT EFFECTIVE,THEN "
  @12,10 SAY " ADMINISTER PROCAIN PENICILLIN I/M FOR ATLEAST 7 DAYS "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO WHILE .T.
    REPLY8 = " "
    @10,10 SAY " ARE YOUR FLOCK BREEDERS ? "
    @11,10 SAY KONS4
    @11,50 GET REPLY8 PICT "!"
    READ
    IF REPLY8 = "Y" .OR. REPLY8 = "N"
      EXIT
    ELSE
      CLEAR
      @10,10 SAY KONS5
      @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
      LOOP
    ENDIF
  ENDDO
  CLEAR
  @10,10 SAY M12
  IF REPLY8 = "Y"
    CLEAR
    @8,10 SAY M12
```

```
    @10,10 SAY " 1. VACCINATE YOUR BIRDS AGAINST FOWL CHOLERA "
    @11,10 SAY " AT 10 - 12 WEEKS OLD "
    @12,10 SAY " 2. ENSURE GOOD MANAGEMENT PRACTICES IN THE FLOCK "
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ELSE
    CLEAR
    @8,10 SAY M12
    @10,10 SAY " 1. VACCINATE YOUR BIRDS AGAINST FOWL CHOLERA "
    @11,10 SAY " AT 3 - 6 WEEKS OLD "
    @12,10 SAY " 2. ENSURE GOOD MANAGEMENT PRACTICES IN THE FLOCK "
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ENDIF
  CLEAR
  DO ALIYU
  IF NOTU = "Y"
    DO VACC
    @24,20 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
  ENDIF
  CLEA
  @10,10 SAY M13
  @11,10 SAY M14
  @12,10 SAY M15
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  DO WHILE .T.
    CLEAR
    RESPONSE18 = " "
    @10,10 SAY M16
    @11,10 SAY M17
```

```
   @12,10 SAY KONS4
   @12,50 GET RESPONSE18 PICT "!"
   READ
   IF RESPONSE18 = "Y" .OR. RESPONSE18 = "N"
    EXIT
   ELSE
    CLEAR
    @10,10 SAY KONS5
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    LOOP
   ENDIF
  ENDDO
  IF RESPONSE18 = "Y"
   LOOP
   CLEAR
  ELSE
   EXIT
 ENDIF
ENDDO
SET TALK ON
RETURN

PROC POX
SET TALK OFF
CLEAR
DO WHILE .T.
 @10,10 SAY M6
 @11,10 SAY M7
 @12,10 SAY M8
 @14,10 SAY "        POX        "
 @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
 SET CONSOLE OFF
 WAIT
 SET CONSOLE ON
 CLEAR
 @10,10 SAY M9
 @11,10 SAY M10
 @12,10 SAY M11
 @14,10 SAY "1.THERE IS NO SPECIFIC TREATMENT AGAINST THE VIRUS BUT
```

```
"
  @15,10 SAY " ANTIBIOTICS/ANTIBACTERIALS LIKE
OXYTETRACYCLINE,ERYTHROMYCIN "
  @16,10 SAY " SULFANAMIDES WILL REDUCE SECONDARY BACTERIAL
INFECTIONS "
  @17,10 SAY " AND THUS LOWER THE MORTALITY RATE "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  @8,10 SAY M12
  @11,10 SAY " VACCINATE YOUR BIRDS AGAINTS FOWL POX  "
  @12,10 SAY " AT 6 WEEKS AND RE-VACCINATE AT 12 - 16 WEEKS OLD  "
  @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
  SET CONSOLE OFF
  WAIT
  SET CONSOLE ON
  CLEAR
  DO ALIYU
    IF NOTU = "Y"
      DO VACC
      @24,10 SAY " Press Any Key To Continue... "
      SET CONSOLE OFF
      WAIT
      SET CONSOLE ON
    ENDIF
    CLEAR
    @10,10 SAY M13
    @11,10 SAY M14
    @12,10 SAY M15
    @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key To
Continue... "
    SET CONSOLE OFF
    WAIT
    SET CONSOLE ON
    DO WHILE .T.
      CLEAR
      RESPONSE30 = " "
      @10,10 SAY M16
      @11,10 SAY M17
      @12,10 SAY KONS4
```

```
     @12,50 GET RESPONSE30 PICT "!"
     READ
     IF RESPONSE30 = "Y" .OR. RESPONSE30 = "N"
       EXIT
     ELSE
       CLEAR
       @10,10 SAY KONS5
       @20,10 SAY " Press ENTER [" +CHR(17)+CHR(196)+CHR(217)+ "] Key
To Continue... "
       SET CONSOLE OFF
       WAIT
       SET CONSOLE ON
       LOOP
    ENDIF
  ENDDO
  IF RESPONSE30 = "Y"
    LOOP
  ELSE
    EXIT
  ENDIF
ENDDO
SET TALK ON
RETURN

PROC YUMIN
set scoreboard off
set talk off
set stat off
clear
SET COLOR TO R/R
@0,25 CLEAR TO 4,50
SET COLOR TO W+/R
@1,27 say " DR. INUWA'S POULTRY "
SET COLOR TO W+/R*
@2,31 SAY " VACCINATION "
SET COLOR TO W+/R
@3,34 SAY " CHART "
SET COLOR TO W+/B
@5,5 TO 23,75 DOUB
@6,11 TO 22,11
@6,28 TO 22,28
@6,48 TO 22,48
@6,6 SAY "S/NO "
@6,15 SAY " VACCINE "
```

```
@6,33 SAY " AGE "
@6,50 SAY " DOSE AND ROUTE "
@7,6 TO 7,74
RETU

PROC TWO
SET TALK OFF
CLEAR
SET COLOR TO W+/R
@10,22 SAY " DONT WORRY,DR.INUWA'S POULTRY SOFTWARE "
@11,22 SAY " IS MEANT TO ASSIST POULTRY FARMERS WITH "
@12,22 SAY " DISEASE PROBLEMS LIKE YOU HAVE NOW "
@20,20 SAY " Press ENTER Key " +CHR(17)+CHR(196)+CHR(217)+ " To
Continue... "
SET CONSOLE OFF
WAIT
SET CONSOLE ON
SET COLOR TO W+/B
CLEAR
RETU

PROC BEAUTY1
SET TALK OFF
SET SCOR OFF
CLEAR
SET COLOR TO N/N
@4,14 CLEAR TO 16,66
SET COLOR TO R/R
@5,15 CLEAR TO 15,65
SET COLOR TO W+/B
RETU

PROC BEAUTY
SET TALK OFF
SET STAT OFF
SET SCOR OFF
CLEAR
SET COLOR TO G/G
@1,9 CLEAR TO 23,72
SET COLOR TO GR/GR
@2,10 CLEAR TO 22,71
SET COLOR TO W+/B
RETU
```

```
PROC BEAUTY1
SET TALK OFF
SET SCOR OFF
CLEAR
SET COLOR TO N/N
@4,14 CLEAR TO 16,66
SET COLOR TO R/R
@5,15 CLEAR TO 15,65
SET COLOR TO W+/B
RETU

PROC BEAUTY
SET TALK OFF
SET STAT OFF
SET SCOR OFF
CLEAR
SET COLOR TO G/G
@1,9 CLEAR TO 23,72
SET COLOR TO GR/GR
@2,10 CLEAR TO 22,71
SET COLOR TO W+/B
RETU

PROC THREE
SET COLOR TO W+/GR
@5,15 SAY "              CODE 001              "
@6,15 say "              ---------             "
@7,15 SAY " Some of my birds exhibit a staggering movement. Some, "
@8,15 SAY " have lost the yellow pigmentation hitherto seen "
@9,15 say " in thier shanks and beaks. Others have watery discharge "
@10,15 say " from eyes while in some you notice some accumulation of "
@11,15 say " cheesy material under thier eyes. Thier feathers are "
@12,15 say " ruffle/rough and growth retarded. "
@14,15 SAY KONS1
@15,15 SAY KONS2
@16,15 SAY KONS3
SET COLOR TO W+/GR*
@18,15 SAY KONS4
RETU

PROC TREAT
set talk off
SET SCORE OFF
SET STAT OFF
```

```
CLEAR
SET COLOR TO W/W
@0,0 CLEAR TO 24,79
SET COLOR TO N/N
@1,8 CLEAR TO 23,71
SET COLOR TO B/B
@3,10 CLEAR TO 22,69
SET COLOR TO W+/B
RETURN

PROC BREED
CLEAR
@8,12 TO 14,60 DOUB
SET COLOR TO W+/N
@ 10,20 SAY "ENTER BR => BREEDERS,  BL=> BROLIERS"
@11,20 SAY "LY=> LAYERS, CH=> CHICKS ONLY"
SET COLOR TO W+/R
@20,20 SAY " Press ENTER Key" +CHR(17) +CHR(196) +CHR(217) +" To
Continue..."
SET CONSOLE OFF
WAIT
SET CONSOLE ON
SET COLOR TO W+/B
CLEAR
return

PROC BREEDER
SET TALK OFF
SET STAT OFF
SET SCORE OFF
@4,10 TO 19,70 DOUBLE
@ 5,26 SAY " ARE YOUR BIRDS LAYERS, BREEDERS, "
@6,26 SAY " CHICKS OR BROILERS ?."
SET COLOR TO W+/B*
@11,12 SAY "ENTER"
SET COLOR TO R+
@8,22 SAY "BR"
SET COLOR TO W+/B
@8,27 SAY "FOR BREEDERS,"
SET COLOR TO B+/W
@10, 22 SAY "BL"
SET COLOR TO W+/B
@10,27 SAY "FOR BROILERS"
SET COLOR TO W+
```

```
@12,22 SAY "LY"
SET COLOR TO W+/B
@12,27 SAY "FOR LAYERS AND"
SET COLOR TO G+
@14,22 SAY "CH"
SET COLOR TO W+/B
@14,27 SAY "FOR CHICKS"
@16,27 SAY "ENTER CHOICE"
RETU

PROC PAC
SET TALK OFF
SET STAT OFF
SET SCORE OFF
CLEAR
SET COLOR TO GR/GR
@1,8 CLEAR TO 23,72
SET COLOR TO RB/RB
@3,10 CLEAR TO 22,69
SET COLOR TO W+/B
RETU

PROC PAC2
SET TALK OFF
SET STAT OFF
SET SCORE OFF
CLEAR
SET COLOR TO GR/GR
@10,6 CLEAR TO 16,73
SET COLOR TO RB/RB
@9,8 CLEAR TO 15,72
SET COLOR TO W+/B
RETU
```

## MSCREEN.BAS

```
REM  PROGRAM WRITTEN AND EXECUTED IN TURBO BASIC CONVERTED
REM  TO EXECUTABLE (.EXE) FILE ACTIVATED AT THE BEGINNING OF THE
REM  EXECUTION OF THE PROGRAM.
CLS
COLOR 15,1
CLS
M$=" YOU ARE WELLCOME TO DR. INUWA'S "
L$= " POULTRY DIAGNOSTIC "
T$=" SOFTWARE "
X$=" ANY ENQUIRY ABOUT DR. INUWA'S POULTRY "
V$=" DIAGNOSTIC SOFTWARE SHOULD "
Z$=" BE DIRECTED "
W$= " TO "
Y$ = " DR. MUSA M. INUWA "
O$= " NATIONAL LIVESTOCK PROJECTS DIVISION "
Q$= " BIDA, NIGERIA "
MUSA$=" WHAT IS YOUR NAME MY DEAR FARMER "
GOSUB 300
FOR K = 1 TO 38
LOCATE 9,22:?LEFT$(X$,K):SOUND 236,.2:DELAY .1
NEXT K
FOR K = 1 TO 28
LOCATE 11,25:?LEFT$(V$,K):SOUND 236,.2:DELAY .1
NEXT K
FOR K = 1 TO 12
LOCATE 13,34:?LEFT$(Z$,K):SOUND 236,.2:DELAY .1
NEXT K
FOR K = 1 TO 3
LOCATE 15,38:?LEFT$(W$,K):SOUND 236,.2:DELAY .1
NEXT K
FOR K = 1 TO 18
LOCATE 17,27:?LEFT$(Y$,K):SOUND 236,.2:DELAY .1
NEXT K
FOR K = 1 TO 37
LOCATE 18,21:?LEFT$(O$,K):SOUND 236,.2:DELAY .1
NEXT K
FOR K = 1 TO 14
LOCATE 19,32:?LEFT$(Q$,K):SOUND 236,.2:DELAY .1
NEXT K
LOCATE 22,18:? " PRESS ENTER KEY "; CHR$(17)+CHR$(196)+CHR$(217) " TO
CONTINUE "
LOCATE 22,50:INPUT I$
```

```
COLOR ,1 : CLS
GOSUB 300
FOR K = 1 TO 36
LOCATE 12,15:?LEFT$(MUSA$,K)     :SOUND 236,.2:DELAY .1
NEXT K
LOCATE 12,50:INPUT N$
GOSUB 200
GOSUB 300
LOCATE 10,28:? " MY DEAR FARMER "; " ";N$ :DELAY 2
FOR K = 1 TO 32
LOCATE 12,24:?RIGHT$(M$,K):SOUND 236,.2:DELAY .2
NEXT K
FOR K = 1 TO 24
LOCATE 14,29:?LEFT$(L$,k):SOUND 236,.2:DELAY .2
NEXT K
FOR K = 1 TO 9
LOCATE 16,33:?RIGHT$(T$,K):SOUND 236,.2:DELAY .2
NEXT K
LOCATE 22,18:? " PRESS ENTER KEY "; CHR$(17)+CHR$(196)+CHR$(217) " TO
CONTINUE "
LOCATE 22,50:INPUT I$
COLOR 7,1
CLS
REM YOU CAN CONTINUE YOUR PROGRAM FROM HERE
END
200
DELAY 1
RETURN
300
COLOR ,6
FOR X=08 TO 20
LOCATE X,10:? SPACE$(60)
NEXT X
RETURN
```

# APPENDIX 3

OUTPUT 1

You will carefully study these clinical signs
Which will appear in codes and pick the code
That most closely resemble those been exhibited
By your sick birds

Press ENTER Key ◄┘ To Continue...

CODE 001

Some of my birds exhibit a staggering movement. Some, have lost the yellow pigmentation hitherto seen in thier shanks and beaks. Others have watery discharge from eyes while in some you notice some accumulation of cheesy material under thier eyes. Thier feathers are ruffle/rough and growth retarded.

DOES THIS CODE RESEMBLE THOSE
SYMPTOMS/SIGNS BEEN EXHIBITED BY
YOUR BIRDS ?

ENTER Y FOR YES AND N FOR NO

OUTPUT 2

If response = Y in OUTPUT 2

DO YOU NOTICE SOME SCALY DERMATITIS AROUND THE BEAK AND VENT OF THE BIRDS ? Y/N

OUTPUT 3

If response = N in OUTPUT 3

YOUR BIRDS HAVE BEEN DIAGNOSED

BY DR. INUWA'S POULTRY DIAGNOSTIC

SOFTWARE TO BE SUFFERING FROM ...

Press ENTER ◄┘ Key To Continue...

OUTPUT 4

VITAMIN A DEFICIENCY

Press ENTER ◂┘ Key To Continue...

OUTPUT 5

TREATMENT

PROVIDE 4,500 I.U/KG OF VIT A IN THE FEED TO THE BIRDS FOR 14 DAYS

Press ENTER ◂┘ Key To Continue...

OUTPUT 6

If response = Y in OUTPUT 3

YOUR BIRDS HAVE BEEN DIAGNOSED
BY DR. INUWA'S POULTRY DIAGNOSTIC
SOFTWARE TO BE SUFFERING FROM ...

PANTOTHENIC ACID DEFFICIENCY

Press ENTER [◄┘] Key To Continue...

OUTPUT 7

TREATMENT

GIVE 2 GRAMS CALCIUM PANTOTHENATE AND 0.5 GRAMS
RIBOFLAVIN IN 50 GALLONS (190 LITRES) OF DRINKING
WATER FOR 7 - 10 DAYS

Press ENTER [◄┘] Key To Continue...

OUTPUT 8

ARE YOUR BIRDS LAYERS, BREEDERS,
CHICKS OR BROILERS ?.

ENTER

BR FOR BREEDERS,

BL FOR BROILERS

LY FOR LAYERS AND

CH FOR CHICKS

ENTER CHOICE

OUTPUT 9

DO YOU COMPOUND YOUR FEED YOURSELF ?

ENTER Y FOR YES AND N FOR NO

OUTPUT 10

If response = Y in OUTPUT 10

## PREVENTION AND CONTROL

SINCE YOU COMPOUND YOUR FEED MAKE SURE YOU

1. PUT ANTI-OXIDANTS OF VIT. A IN YOUR FEED AND ENSURE THOROUGH AND PROPER MIXING OF YOUR FEED SO THAT ALL MICRO-NUTRIENTS ARE ALMOST EVENLY SPREAD IN THE RESULTANT FEED

Press ENTER ◄┘ Key To Continue...

2. USE STABALISED VIT. A SUPPLEMENT WHICH IS AVAILABLE IN THE MARKET WHEN COMPOUNDING YOUR FEED

Press ENTER ◄┘ Key To Continue...

OUTPUT 11

If response = N in OUTPUT 10

PREVENTION AND CONTROL

ADD APPROXIMATELY 5-5.5mg OF CALCIUM PANTOTHENATE PER KILOGRAM OF FEED

Press ENTER [◄┘] Key To Continue...

OUTPUT 12

DO YOU WANT TO CONTINUE ? Y/N

OUTPUT 13