

The  
**S.A.P.A.**  
**POULTRY**

Die  
**S.A.P.V.**  
**PLUIMVEE**

# BULLETIN

Official Organ of the S.A. Poultry Association. Amptelike Organ van die S.A. Pluimveevereniging.

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Gratis to Members—Gratis aan Lede.

## Editorial : Redaksioneel

### MEALIES.

It is very significant to find important bodies of Mealie Farmers now openly stating that the future of the mealie industry lies with greater internal consumption, and that to secure this, stock feeders should receive their mealie supplies at a minimum price. This is the policy we have maintained from the beginning.

Poultry farmers are prepared to pay a fair price for the mealies they require, but do object to having to make up for loss on export, especially as in turn they have to export their produce on world's prices without internal compensation.

The great question is how to make up an equitable price for the surplus crop of mealies to be exported. It is now said in many quarters that this should be done by a payment from Government funds, which would mean from general taxation, instead of a levy which has to be paid by a section of the community. Here, again, our views so vigorously advanced despite much opposition are being endorsed. We go further and say that other and less costly means could be found, but the Government prefer present methods, as Minister Havenga made clear some weeks ago.

In view of a change of policy with reference to the method of collecting the levy in Native territories, we hope the Mealie Control Board will reverse its decision as to the quantities of mealies upon which poultry farmers can claim the rebate, and allow the quantities the Association have stated, viz., three bags per hundred birds per month.

### MIELIES.

Ons vind nou dat belangrike boere organisasies openlik verklaar dat die toekomst van die Mieliebedryf lê in groter binnelandse verbruik, en om dit te bewerkstellig moet gesorg word dat veevoerders hulle voorrade so goedkoop moontlik moet kry. Hier het ons die beleid wat ons van die begin af aanbeveel het.

Pluimveeboere is gewillig om 'n redelike prys vir mielies te betaal, maar objektiewer om die verlies op uitvoer te dra terwyl hulle hulle eie produkte teen wêreldse pryse moet uitvoer sonder enige binnelandse vergoeding te geniet.

Die groot vraag is hoe om 'n redelike prys te kry vir die surplus mielies wat uitgevoer moet word? Dit word nou van baie kante beweer dat hierdie verliese behoort van Goewerment fondse gesubsidieer te word, m.a.w. van algemene belasting, in plaas van 'n heffing wat deur een seksie betaal moet word. Hier het ons weer 'n geval waar ons menings wat ons so kragtig voortgesit het in die gesig van so baie opposisie, nou deur ander bekragtig word. Ons gaan nog verder, en beweer dat goedkoper metodes behoort en kan gevind word, maar volgens 'n verklaring van Minister Havenga, skyn dit dat die teenwoordige metodes die goedkeuring van die Goewerment wegdra.

Die Mielie Beheerraad het sy beleid verander in verband met die versameling van die heffing in die Natuurelle streke en dus hoop ons dat hulle hulle beleid aangaande die hoeveelheid mielies waarop die rabate aan pluimveeboere betaalbaar is ook in hersiening sal neem, en die syfer wat die Vereniging as billik beskou sal aanneem, n.l. drie sakke per honderd hennas per maand.

## WHEATEN OFFALS.

It has been brought to our notice that in many districts farmers are being charged more than the figure given in the Gazette as the maximum ex millers store, or free on rail. Will readers send particulars to the Association of any such cases?

We are still hoping to hear that the price for Pollard is being brought into line with that of Bran, while we have yet to receive an adequate explanation or reason why the millers are allowed to average 6d. per bag of Bran more than the figure given by them a year ago as allowing a fair profit.

Stock feeders are denied representation on the Wheat Control Board, as the Consumers' representative must not trade in or be concerned in the selling or buying of Wheat or Wheaten Offals, so that our views cannot be adequately or efficiently represented on the Board. Why a stock feeder who is a consumer of both flour and wheaten offals cannot represent consumers requires much explanation.

## KORING NIWE-PRODUKTE.

Dit is onder ons aandag gebring dat Semels en Fynsemels in baie distrikte vir hoër pryse as die deur die Koring Beheerraad vasgestel, verkoop word. Wanneer leersers te veel vir hierdie produkte gevra word, sal hulle alle besonderhede aasblief aan die Vereniging stuur.

Ons wag nog om te hoor dat die prys van Fynsemels dieselfde as die van semels vasgestel word, en ons wag ook op 'n verduideliking waarom Meubemaars toegelaat word om gemiddeld 6d. meer per sak semels te vra as wat hulle self neergelê het as 'n prys wat hulle 'n redelike wins lewer.

Onrede die verbruikers verteenwoordiger op die Koring Beheerraad nie met Koring of Koring Newe-Produkte mag handel, of betrokke wees in die verkoop of aankoop daarvan nie, is vervoerders nie daar verteenwoordig nie, en hierdeur kan ons sienwysse of menings nie volledig voor die raad gelê word nie. Dit eis 'n verduideliking waarom vervoerders, wat beide meel en koring newe-produkte gebruik, nie verbruikers mag verteenwoordig nie.

## More Clubs in the Orange Free State

From the 24th July to the 8th August, Mr. M. S. Letty, the Secretary of the Association, addressed meetings at Reitz, Bethlehem, Fouriesburg, Marquard, Excelsior, Zastron, Winburg, Lindley, Petrus Steyn and Frankfurt.

New clubs were formed at Fouriesburg and Zastron, while it is hoped that in the very near future clubs will be established at Excelsior, Port Allen (near Theunissen) and Petrus Steyn.

Marquard and Winburg have progressed rapidly since clubs were formed there, and the membership of the former club now stands at over 70, which is very promising for a club barely two years in existence.

At all meetings the items principally discussed were:

1. The purchase of mealies under the present Mealie Control Scheme, and the policy and views of the Association on the mealie question.
2. The purchase of Wheaten By-products under the present fixed prices.
3. The marketing of eggs, especially in relation to Compulsory Grading.

The Bulletin was also discussed at all meetings, and it is very evident that poultry farmers find the publication both interesting and useful.

## Verdere Klubs in die Oranje Vrystaat

Vanaf 24 Julie tot 8 Augustus het Mr. M. S. Letty, die Sekretaris van die Vereniging vergaderings toegesprek op Reitz, Bethlehem, Fouriesburg, Marquard, Excelsior, Winburg, Lindley, Petrus Steyn en Frankfurt.

Nowe klubs is op Fouriesburg en Zastron gestig en die hoop is gekoester dat binnekort sal klubs op Excelsior, Port Allen (naby Theunissen) en Petrus Steyn hulle voorskyn maak.

Marquard en Winburg het vanaf die stigting van hulle klubs goeie vordering gemaak, en die ledetal van eersgenoemde staan op meer as 70 lede, wat veelbeloofend is vir 'n klub wat skaars twee jaar bestaan.

Die vermaaste sake wat op alle vergaderings behandel is was:

1. Die aankoop van mielies onder die huidige Mealie Beheer Skema en die beleid en sienwysse van die Vereniging aangaande die Mealie vraagstuk.
2. Die aankoop van Koring Newe-produkte onder die huidige vasgestelde pryse.
3. Die bemarking van eiers, vernameklik met betrekking tot Verpligte Gradering.

Op alle vergaderings is die Bulletin bespreek, en dit is klaarblyklik dat pluinverboere die blad interessant en leersaam vind.

## Nuttige Pluimveerantsoene

Deur A. M. Geticke, Pluimveevoeringsbeoefter,  
Landbou Kollege, Potchefstroom.

Waar hense 'n hoë produksievermoë oorgeërf het, moet hulle die regte soort kos vir die vorming van 'n groot aantal eiers kry. Die regte rantsoen kan beskryf word as 'n kombinasie van bestanddele bevattende proteïen, koolhidrate en vette in verhoudings en hoeveelhede wat, as dit deur minerale, vitamiene en water aangevul word, die liggaam behoorlik sal voed en bewend die nodige bestanddele vir groei en eier-produksie sal verskaf.

Die volgende is 'n nuttige meelkoseantsoen om aan kalkens te voer vanaf hul eerste dag totdat hulle 18 of 20 weke oud is:—Geelmieelmeel (No. 2), 70 lb.; fynsemels, 20 lb.; semels, 15 lb.; vlammeel, 10 lb.; gemaalde Sussex-hawer, 10 lb.; lusernmeel, 5 lb.; beenmeel, 2 lb.; oesterskulpposier, 1 lb.; fyn bottersout, ½ lb. As jong hense hul eerste eiers begin lê, d.w.s. wanneer hulle geslagslik volwasse is, moet hulle in 'n lëms gepas word. Die volgende is 'n nuttige meelkoseantsoen vir eierproduksie:—semels, 60 lb.; fynsemels, 40 lb.; geelmieelmeel, 40 lb.; vlammeel, 30 lb.; gemaalde hawer, 20 lb.; lusernmeel, 10 lb.; oesterskulpposier, 5 lb.; beenmeel, 2 lb.; fyn bottersout, 1 lb. Geelmieel kan ook in krapgoed gevoer word. Lëms behoeft ook volop groenvoer en skoon drinkwater te kry. Dit word ook aan die hand gegee dat oesterskulp en gruis in aparte emmers vir die hense beskikbaar gestel word.

Meelkos vir kalkens en hense kan, indien nodig, in groter hoeveelhede gemeng word.

Sowel gemaalde hawer as lusernmeel is by bostaande rantsoene inbegrepe. Proewe wat onlangse uitgevoer is, het bewys dat die doppe van hawersaad 'n waardevolle faktor besit waardeur parasitêre aëngings by hoenders voorkom kan word. Daar bestaan dus 'n moontlikheid dat as gemaalde hawer by die rantsoen ingesluit word, die hoenders minder gereuk sal wees om aan vee en tone te pik. Gemaalde hawer bevordert die gesondheid van die hoenders en kan moontlik hul lewens verleng.

Hoewel lusernmeel nie groenvoer kan vervang nie, bevat goeie lusernmeel togrens sekere waardevolle bestanddele wat die groei van die hoenders bevordert. Sulke meel behoort 'n vars groenerige voorkoms te hê, so min stengels as moontlik en volop blaarmateriaal te bevat. As die meel merendeels uit stengels bestaan en as dit strookleurig is, behoort dit nie in die rantsoen te kom nie.

Nat of droë meelkos, of albei, behoort in die oggend gevoer te word. Gedurende die kose wintermaande is dit goed om die hoenders in die oggend eers met meelkos te voer, maar net soveel as wat hulle in 15 tot 20 minute kan opeet. In geval droë meelkos uitsluitlik gevoer word, kan die kosbakke heeldag oopgehou word, sodat die kalkens of lëmsse te enige tyd kan gaan eet. Groenvoer moet voor middag gegee word en in die namiddag, omstreeks 4-uur, kan die hoenders graan kry. Dit is egter nie raadzaam om lëmsse groot hoeveelhede graan en groenvoer by die eerste voertyd in die oggend te gee nie. Dit behoort besef te word dat meelkos die eiervormende voedsel is, en dat lëmsse dus toegelaat moet word om 'n sekere hoeveelheid meelkos te eet voordat hul kroppe met graan (energievormende voedsel) en groenvoer (lywigevoer) geval word.

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GEORGE, C.P.

# Poultry Houses from Coal Ash.

By P. J. Serfontein, Lecturer in Poultry, School of Agriculture, Potchefstroom.

Housing is one of the most expensive items on a poultry farm, which probably explains why many farmers do not erect the necessary poultry houses.



Fig. 1.—The mould filled with the mixture. Note projecting wire to be attached to the beams.

Farmers are often prepared to purchase valuable breeding stock and to accept advice on feeding and general management, but a recommendation for the erection of the necessary housing immediately meets with disapproval. Assuming that a well-built house can be used for at least thirty years, it is clear that the investment per hundred fowls is not excessive.

For this reason the author has for the last five years carefully studied various kinds of poultry houses built in different ways, including the following: reed houses, grass houses, sacking houses whitewashed with lime or cement mixtures, etc. In every case the houses for a time served their purpose, but the continual need for repairs makes these types uneconomical and inefficient. In some parts of the country the soil is unsuitable for brickmaking, with the result that poultry farmers who would like to build brick houses find it very difficult to make or purchase bricks.

## EXPERIMENTS CARRIED OUT.

Three years ago, on a visit to Mr. F. C. Pistorius, Amelia, Coalbrook, who had also experienced difficulty in making bricks, the author was shown some walls built of a mixture of coal ash, building lime and sand, which had then been standing for three years. These walls were not protected by a roof, and after three years' exposure to all kinds of weather conditions, they still appeared to be quite solid.

It appeared that this method of wall construction could be applied in building poultry houses where the material is readily obtainable. Fortunately, Mr. Pistorius was willing to put this method to the test, there being large quantities of coal ash available from a coal mine on the neighbouring farm.

Houses of various sizes were built, the internal measurements of the largest being 16 ft. by 24 ft. This house was fitted out for 200 hens on the free ranging system, and, except for the difference in measurements, was built according to the specifications for standard houses as recommended by the Department. After these houses had been used for a period of two and a half years the walls were still solid, and in course of time even became harder.

Since these houses are very cheap and the principal materials used in the construction of the walls are obtainable in various parts of our country, this cheaper method of building should meet with the approval of poultry farmers. A short description of the mixtures which were used is therefore given in this article.



Fig. 2.—The moulds must be square at the corners. Note the appearance after removal of the mould at the corner.

It might interest poultry farmers to know that Mr. Pistorius had no previous experience or instruction in building. The method of construction is quite simple,

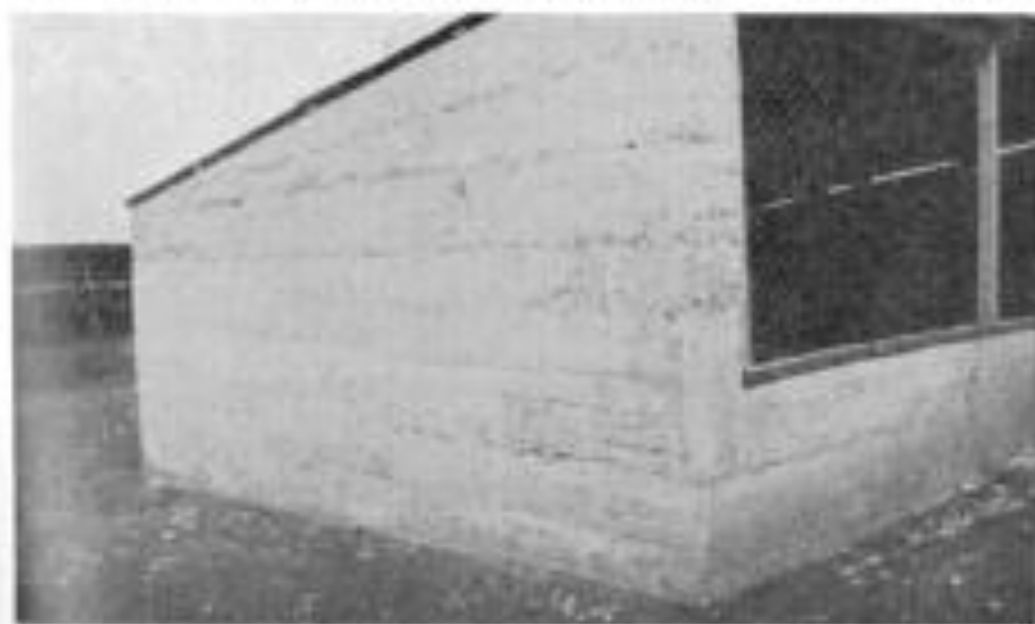


Fig. 3.—A close-up view of the outer wall.

and poultry farmers who have the necessary time can build such houses themselves. There may be other persons who have experimented with this method of building and who may have discovered facts which are not mentioned here. This method undoubtedly holds further problems, but it is felt that if the possibilities are exploited by experienced builders, the problem of poultry housing could to some extent be solved.

#### SPECIFICATIONS AND METHOD.

For the walls of the house mentioned above 24 bags of building lime were used. Ten paper bags of cement were required for laying the floor and plastering the house internally.

Boxes or moulds were used, those intended for the corners being absolutely squares, so that the spirit level could be used on the outside of the box. The boxes were secured to the walls by means of long bolts. The holes in the boxes through which the bolts passed were about two inches from the bottom of the box to ensure firmness. Planks were nailed across the top of the box, fixing its width according to the thickness of the wall. The bolts were removed just before the boxing was taken down and shifted.

#### THE FOLLOWING MIXTURES WERE USED.

- (1) 8 parts coal ash, 2 parts sand and 1 part building lime, or
- (2) 6 parts coal ash, 2 parts sand and 1 part building lime.

The walls of the houses built with these mixtures appeared somewhat brittle, and the sand was therefore omitted when the next group of houses were built.

It was then found that the former mixture minus the sand gave excellent results, and this mixture is recommended because it is cheaper than the other. The coal ash should not be screened, as it is desirable that the fine dust should be retained to be mixed with the lime.

A third group of houses was built with a mixture consisting of 8 parts coarse river sand and 1 part lime. This mixture also contained fine dust to bind the lime. These houses appear to be more solid than the other, but they have not been erected long enough to warrant an expression of opinion.

Plenty of water should be used when mixing. The consistency of the mixture should be such that when poured into the mould it will settle easily. The more water in the mixture the smoother and harder the walls. The mixture may be well moistened on the ground and more water added in the mould, or it may be made fairly stiff and most of the water added in the mould. The former method is preferred. It is not necessary to leave the mixture to mature—it may be poured into the boxes and left to set immediately after mixing. This process usually takes from 45 to 60 minutes. Remove the boxing and the wall is ready for the next layer.

Care should be taken, however, that no wood is left in the walls, as it swells and on becoming dry again causes cracks in the walls. Dolerite or wire can safely be used if necessary. Where door frames are put in, it is always advisable to back the wood with a little cement, as the other mixtures tend to contract on drying.

—(From "Farming in South Africa." To the Government Printer, Pretoria, we gratefully acknowledge the blocks reproduced with this article.—Ed., S.A.P.A. Bulletin.)



Fig. 4.—The finished product.

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**S.A. Minorca Club.**—Secretary, W. W. Bartlett, Esq., P.O. Box 7400, Johannesburg. Subscription, 5/- per year; Initial fee, 2/6.

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## A Strict Warning.

### IMPORTATION OF POULTRY AND ALL OTHER BIRDS.

(The following letter received from the Department of Agriculture is of such importance that we publish it in full for general information.—Editor, "S.A.P.A. Poultry Bulletin.")

Subjoined is an extract from a minute received from the Director of Veterinary Services. You no doubt will agree that the possible introduction of any disease must be strictly safeguarded against. I, therefore, solicit your co-operation, and would suggest that all members of your Association be advised of the contents of the minute received from the Director of Veterinary Services. Furthermore, it will be appreciated if you could bring to their notice that should anyone intend importing poultry in the future, timely application for the necessary permits must be made before finally arranging for the purchase and despatch of consignments to the Union. The co-operation of poultrymen in this matter would greatly assist in reducing to a minimum the risk of introducing infection with diseases dangerous to the poultry industry.

With reference to the consignments of exotic birds which arrive at Union ports from time to time, frequently without authority for importation having been obtained, and unaccompanied by veterinary health certificates, I have to state that the introduction of birds is attended by considerable risk from the veterinary point of view, particularly in view of the serious diseases which are known to exist in other countries of which the Department has no accurate information as to their distribution. Among the many serious diseases to which birds are susceptible, and against which it is necessary to guard the Union, may be mentioned as instances, Newcastle disease, infectious laryngotracheitis and psittacosis. Newcastle disease is of widespread distribution, while in the case of psittacosis several species of wild birds have recently also been implicated as carriers and, as you will be aware, there was a recent outbreak in pigeons in Johannesburg. As a further example it may be mentioned that infection of equine encephalomyelitis has been found in ring-necked pheasants in the United States.

The introduction of birds, except under the most stringent safeguards, could easily jeopardise the livestock industry of the Union. Moreover, in the event of the birds escaping there is no foretelling to what extent they may become a pest, as has been experienced in other countries.

Section 4 of the Diseases of Stock Act, 1911, provides that no stock (which term includes poultry and all other birds) shall be introduced from overseas except on the authority of a permit issued by the Principal Veterinary Officer, who shall not issue such a permit unless he is satisfied that the country of origin is free from disease to which such stock is liable, or if not free, that his requirements have been complied with. In the case of poultry and birds such permits will in future be issued from this office. Proclamation No. 118 of 1937 issued under the Agricultural Pests Act, 1911, also prescribes that birds shall not be introduced except on the authority of a permit issued by the Department and subject to such conditions and restrictions as may be imposed. Such authority is granted by the Secretary of Agriculture and Forestry. These provisions will in future be strictly enforced, and no birds should be permitted to land without the authority of this office unless the necessary permits, issued under the Diseases of Stock and Agricultural Pests Acts are produced and the Government Veterinary Officer at the port is satisfied that the requirements laid down therein have been fully complied with.

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Even the hard-billed poultry farmer is eventually impressed by the volume of evidence in favour of the egg-producing properties of Karswood Poultry Spice. At last, he admits "There must be something in it." But he is not satisfied until he has asked: "But how long have these people who praise Karswood so highly been using Karswood Poultry Spice?" Well, let this poultry-keeper answer it. He has been using Karswood Poultry Spice for about 12 years. This is his verdict:—

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"I know," he writes, "that you like to hear from users as to what results they have had before and after using Karswood. However, I am very pleased to say that there has been an 'before' with me. I started keeping poultry about 12 years ago. At present, I run a flock of about 400 birds (ducks and hawks) and they all have Karswood Poultry Spice and are in perfect condition. My flock of 250 sex-linked pullets have yielded a steady average of 1,300 eggs a week for some time past, right in the middle of winter. I put this down to Karswood Poultry Spice and keep using it. My loss from illness during the past six months has been NIL, although my farm is in an exposed position. My advice to any poultry-keeper is 'Karswood your cares away.'"—A.C.

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# Cod Liver Oil

(From "THE VETERINARY RECORD")

Attention has frequently been drawn in the columns of this journal to the importance of using only cod liver oils of guaranteed quality for animal feeding as well as for purely veterinary purposes. It is an undoubted fact that many cod liver oils hitherto sold for animal administration contained admixtures of other fish liver, vegetable or mineral oils which rendered them quite unsuitable for the purposes for which they were intended. It is equally true that there is still a quantity of "genuine" cod liver oil (i.e., oil derived from livers of the cod family) on the market which has been produced by such inferior methods as to render it a possible source of danger when fed to livestock. These facts have been recognised for a considerable time both by important sections of the producing industry and by the veterinary profession, but by no means always appreciated by the stock feeder.

It has not, however, up to the present been possible to lay down any very definite standards by which the quality of cod liver oil intended for animal feeding could be judged. For purely therapeutic purposes in veterinary medicine it has been customary to use oil of the British Pharmacopoeia standards, but the cost of such oil generally precludes its routine use as a prophylactic or as a feeding stuff for animal purposes.

At the request of a number of bona fide producers, the British Standards Institute set up a committee in 1936, comprising representatives of the producers, the stockfeeding industry and the veterinary profession, to inquire into the possibility of preparing standards of purity and vitamin potency for veterinary cod liver oil. The committee were unanimous on the necessity for such standards, and they were, therefore, asked to draw up a specification which would safeguard the interests of purchasers and which at the same time would be acceptable to the producers.

The British Standards Institute has just published the specifications adopted. (*British Standard Specification for Veterinary Cod Liver Oil. Publication No. 839, 1939, obtainable from the British Standards Institution, 28, Victoria Street, London. Price 2s. net, post free 2s. 3d.*)

Whilst the specification will do much to ensure the quality of cod liver oil sold for animal feeding, the Institution points out that the specification "does not purport to include all the necessary provisions of a contract." Further, "the specification does not apply to materials which are intended for medicinal use and are included in the B.P." In addition to the specification, the publication also includes details of the methods by which the various chemical and biological tests shall be carried out.

The following abstract of the specification likely to be of interest to the veterinary profession is published with the permission of the British Standards Institution.

**Description.**—"For the purposes of this Specification Veterinary Cod Liver Oil shall be the product obtained from the fresh, iced or otherwise suitably preserved livers of the Cod, *Gadus morhua* Linn, and other species of *Gadus*.

"The oil when kept for 24 hours at a temperature of 16° C. shall be a clear yellow liquid and shall be free from any foreign matter. The odour shall be slightly fishy but not rancid, and the taste shall be bland and slightly fishy."

**Iodine Value.**—"The iodine value of the oil shall be not lower than 150 nor higher than 178."

**Saponification Value.**—"The saponification value of the oil shall be not lower than 180 nor higher than 190."

**Acidity.**—"The acidity expressed as oleic acid shall not exceed 1 per cent, unless otherwise declared, and in no case shall it exceed 3 per cent."

**Unsaponifiable Matter.**—"The unsaponifiable matter of the oil shall not exceed 1.5 per cent, unless otherwise agreed between Purchaser and Vendor, and in no case shall it exceed 1.7 per cent."

**Vitamin Potency.**—"The vitamin potency of the oil shall be no less than 500 units of vitamin A per gramme, 50 units of vitamin D per gramme. All declarations of vitamins A and D potencies shall be made in International units per gramme and the oil tested for its vitamin potencies."

**Blue Value.**—"If the oil is submitted to the anti-mony trichloride test, the blue value shall not be lower than 6."

"The blue value of Veterinary Cod Liver Oil is not to be taken as a measure of the vitamin A content but as an approximation thereto only. If a discrepancy arises between the vitamin A values suggested by this method and by the biological method, the value determined by the biological method shall be accepted."

## EXPLANATION AND COMMENTS.

**Definition.**—Great importance should be attached to the restriction to *Gadus* fishes, since practically no other genus of fish furnishes liver oil which is comparable in all its characters with the oil derived from this genus. At virtually all the large producing centres in Britain the cod (*G. morhua*) predominates in the catch, amounting to as much as 80 per cent. The other *Gadus* fishes which figure to some extent in the production are haddock (*G. aeglefinus*) and saithe (*G. virens*). The oils from all these fishes are very similar in their general character. So far as vitamin values are concerned, taking the cod as of average value, haddock liver oil is generally lower in vitamin content, while saithe liver oil is distinctly higher.

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Colour, smell and taste are senses which every normal individual has at his disposal and can be used with great advantage in estimating the quality of an oil. Oils which are dark in colour and are unpalatable to the taste or smell should be avoided.

**Iodine Value.**—The limits of iodine value are reasonable. Iodine value can be of some use from an analytical point of view; taken in conjunction with other constants it gives an approximation as to whether the oil is of reasonable purity and quality. If oil is damaged, for example, by oxidation or polymerisation, the iodine value would tend to fall.

**Saponification Value.**—The relatively high saponification value for cod liver oil is of some diagnostic value, especially when taken in conjunction with the iodine value, the amount of unsaponifiable matter and the general character of the oil. Most of the common adulterants, e.g., dog-fish, herring, shark and cat-fish oils, etc., have lower iodine values and lower saponification values than cod liver oil.

**Unsaponifiable Matter.**—The proportion of unsaponifiable matter is perhaps the most valuable of the easily ascertained constants of cod liver oil. It has been shown that liver oil from the Gadus fishes averages approximately 1.00 per cent. unsaponifiable matter (Harris, 1938, *Chemistry and Industry*, 57, 508) and the figure of 1.5 per cent. is therefore not unreasonable in order to cover unavoidable mixtures of small proportions of other livers. The figure of 1.5 per cent. unsaponifiable matter is, in fact, accepted generally both in medical and veterinary science, though it is of interest to note that in the U.S.A. the more stringent limit of 1.3 per cent. has been accepted.

The figure of 1.7 per cent. unsaponifiable matter is, we feel, too high, as it allows the possible admixture in unduly high proportions of such oils as dogfish and shark, where the unsaponifiable matter may vary from 5 per cent. to 50 per cent. These oils, it is true, contain considerable amounts of vitamin A, but have been shown to be low in vitamin D.

**Acidity.**—The free acidity of cod liver oil indicates the care which has been taken in the preparation of the oil. High free acidity is therefore indicative of a damaged oil, and though it may not of itself be harmful it indicates the probable presence in the oil of decomposition substances which may be. The writer is of the opinion, therefore, that oils with a greater free acidity than one per cent. are possibly dangerous for animals, and should, if possible, be avoided.

**Blue Value.**—The limit of 6 blue value is reasonable, and should include practically all pure cod liver oil.

**Vitamin Values.**—The specification lays down that the biological method of testing for both vitamins A and D is the official one. The minimum values given for vitamins A and D are such that no genuine cod liver oil prepared with ordinary care should fall below these levels.

The publication of the B.S.I. Specification for Veterinary Cod Liver Oil can be considered as a step in the right direction, and if oil were exclusively bought under this specification it would eliminate many of the undesirable practices which have characterised certain sections of the trade for some considerable time. The specification, one understands, is to be revised after a period of twelve months when the standards may be revised and modifications introduced if found to be necessary in the light of further knowledge and experience.

## Cod Liver Oil Survey in India

One hundred samples of medicinal cod liver oil and its preparations, with both foreign and indigenous labels, obtained from the civil hospitals, customs department and the open market in different provinces of India have been examined in the Government Biochemical Standardisation Laboratory for purity and vitamin A content. According to the *Indian Medical Gazette* (April, 1939, page 215), 64 samples failed to satisfy the B.P. requirements; 28 samples were found to be deficient in vitamin A, and four samples out of this group were completely devoid of vitamin A. The acid value of one oil was 18.8 and of another 31.8. This survey, the first of its kind in India, reveals a very unsatisfactory state of affairs, for neither the public nor medical practitioners can be aware of the poor quality of much of the cod liver oil which is offered for sale.

(*Veterinary Record*.)

## Veterinary Research

Poultry farmers will welcome the news that a further full-time Veterinarian has been appointed at Ouderstepoort for poultry research work. The new Officer has wide experience of work on coccidiosis in the United States, and will specialise in work on this scourge as found in the Union.

Strenuous efforts are being made by Ouderstepoort to find a cheap and efficient source of supply of Vitamin B2 owing to the limited supplies of yeast available, although it is hoped that the efforts made by the Association will result in further supplies being gradually increased at Pietermaritzburg, Port Elizabeth and Cape town.

## 'N BEROEP.

Adverteerders ondersteun u Vereniging en ons doen dus 'n beroep op elke leser om sy benodigdhede slegs van „Bulletin“ Adverteerders te bestel, en ook melding te maak van die „Bulletin“ in alle korrespondensie met die betrokke firmas. Dankie.



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## Useful Poultry Rations

By A. M. Gericks, Poultry Research Officer,  
Potchefstroom College of Agriculture.

If hens have inherited high egg-production they should be given the correct food for the formation of a large number of eggs. The proper ration can be defined as being a combination of ingredients containing protein, carbohydrates, and fats, in proportions and quantities which, when supplemented with minerals, vitamins, and water, will nourish the body properly and in addition supply the necessary ingredients for growth and egg production.

The following is a useful all-mash ration for feeding chicks from the first day until they are 18 or 20 weeks old:—70 lb. yellow mealmeal (No. 2), 20 lb. pollard, 15 lb. bran, 10 lb. meat meal, 10 lb. sunsex ground oats, 5 lb. lucerne meal, 2 lb. bonemeal, 1 lb. oyster shell powder,  $\frac{1}{2}$  lb. fine dairy salt. At first the mash is fed dry in chick hoppers, and later in self-feeding mash hoppers. The chicks are allowed to help themselves at any time. In addition to the above mash, chicks should receive clean drinking water and green feed.

When pullets lay their first eggs, i.e., when they are sexually mature, they should be placed in a laying house. The following is a useful mash for egg production:—60 lb. bean, 40 lb. pollard, 40 lb. yellow mealmeal, 30 lb. meat meal, 20 lb. ground oats, 10 lb. lucerne meal, 5 lb. oyster shell powder, 2 lb. bonemeal, 1 lb. fine dairy salt. Yellow mealmeal can be fed as scratch grain. Laying hens should also receive plenty of green feed and clean drinking water. It is also recommended that oyster shell and grit be supplied in separate buckets.

If desired, the chick mash and the laying mash can be mixed in larger quantities.

Both ground oats and lucerne meal have been included in the above rations. Recent experiments have indicated that oat-hulls contain a valuable factor which prevents the cannibalistic habits of birds. The possibility therefore exists that if ground oats are included in the ration, there will be a lesser tendency for birds to peck feathers and toes. Ground oats add to the health of birds and possibly prolong life.

Although lucerne meal cannot be substituted for green feed, it is nevertheless certain that good-quality lucerne meal contains valuable growth-promoting factors. Good-quality lucerne meal should have a fresh greenish appearance, as few stalks as possible, and plenty of leafy material. It is not advisable to include meal consisting mainly of stalks and having a straw-coloured appearance.

Wet or dry mash, or both, should be given in the morning. During the cold winter months it is a good practice to supply the birds with wet mash as the first feed in the morning. Only a small quantity should be given, sufficient for the birds to consume in about 15 to 20 minutes. If dry mash is fed alone, the self-feeding food hoppers can be kept open all day, so that the chicks or laying hens can help themselves at any time. Green feed should be supplied before lunch. Grain should be fed in the afternoon at about four o'clock. It is an unwise policy to feed large quantities of grain and green feed to laying hens as the first meal in the morning. One should realise that the mash is the egg-forming food, and that laying hens should therefore be permitted to consume a certain quantity of mash before their crops have been filled with grain (energy-forming food) and green feed (bulk).

## Cutting Costs of Production

By "BREEDER."

With prospects of low prices for eggs owing to glutted internal markets and poor prospects for export, it is essential for all producers to explore every avenue of cutting down production costs.

### CULL.

The first must be the culling from the flock of every bird which gives indication of not pulling its weight. Birds not quite up to standard, off colour, too fat, those losing condition; cocks which are not required, all must go. Excessive broodiness should be the signal for the selling of such birds showing this failing. Do not think culling should be a general clean up once a year. It must be a continuous process. As you make room for growing stock by continuous culling and cut out a source of probable loss, you kill two birds with one stone.

### PROFITABLE PRODUCTION.

Only by aiming at increased production per hen will you manage to keep low producers out of your flock in any numbers. The trend is always downward unless breeding is directed towards remedying the

natural downward pull. Far better maintain a small profitable flock where management means control of all essentials, than endeavour to cover growing costs and lower returns by extending in numbers. Profits will come from increased efficiency per unit, which means per hen, and management must be such that you provide all facilities for a hen to develop to the full in natural productive resources. If you have not breeding knowledge, or the time, or ability, to breed scientifically and properly, then buy from one who specialises in breeding high production stock. Do not forget, however, that heavy mortality through indifferent rearing, or stock which has not been bred from stamina as well as high production, can materially increase your costs; in fact, mortality often means the difference between profit and loss. Efficient rearing, proper feeding and adequate care of stock at all ages is essential if results are to show a profit and not a loss. An aptitude for taking care, especially in little things, is essential in the make-up of the successful poultry farmer.

### BREEDING.

Do not sacrifice efficiency by "cheap feeding." Give an adequate balanced ration, but cut non-essentials and prevent waste. Heavy production means heavy food consumption. Food is the fuel to keep the egg machine going. See it is adequate and of the best quality.

# CHICKEN POX

By J. D. W. A. COLES, Onderstepoort.

Chicken pox is a contagious disease that occurs not only all over the Union but all over the world. It is the cause of very heavy losses.

## An Important Point.

An important point to be emphasised is that chicken pox is not the same as roup (infectious coryza). Only in very recent years has this fact been realised. Roup never shows scabs on the comb, wattles or skin, and the chicken pox vaccine will not immunise against it. Owing to past confusion, these two distinct diseases have been known by various names, such as cold, catarrh, roup, diphtheria, diphtheric roup, canker, swollen head and swollen eye.

It is true that some cases of chicken pox show the lesions of roup only, but some fowls in the flock are almost certain to show the typical pustules and scabs on the comb, etc., if the disease is really chicken pox.

## The Cause.

Chicken pox is due to a very small organism which can only be seen distinctly with the best microscopes. The organism enters a body cell and there multiplies to form a "colony" of hundreds of the organisms, actually within the cell. The organisms can be stained by special methods and are now even able to be grown outside the body.

## Occurrence of the Disease.

Chicken pox may occur throughout the whole year, but usually is at its worst from September to February. Cases in early spring are usually in young chickens, whereas those in January and February are confined mainly to pullets bitten on the comb by mosquitoes when just coming into lay.

The disease is essentially one of young birds, but even old hens may be affected. A recovered bird is usually immune for life.

Apart from transmission by mosquitoes and blood-sucking flies, the organisms can enter the susceptible fowl through small lesions in the mouth or through small wounds in the skin, due to fighting, etc.

Turkeys are very susceptible to chicken pox. Pigeons sometimes contract the disease, but usually suffer from pigeon pox, which is caused by another variety of the organism. Anything that lowers the vitality of a fowl makes it more susceptible to chicken pox. Such conditions are bad hygiene, exposure to cold wet weather, infestation with lice, red mite, hampans and worms, and bad feeding. If white maize is fed instead of yellow, and green food is scarce, chicken pox will be more dangerous.

## Symptoms.

These are well known. Most people have seen the small whitish yellow pustules that develop later into the brown wart-like growths on the comb and wattles. There may be discharge from the nostrils, little whitish

spots in the mouth, swollen and closed-up eyes, and even the common condition known as the "pip," which is a hardening of the tip of the tongue due to the food remaining through the mouth. If the nose is open a fowl will not develop the "pip." Cases have been described where fowls showed only a little nasal discharge, but were ill and got "light" and finally died.

As in roup, a fowl may die of suffocation due to the entrance to the windpipe being blocked by a bit of yellowish diphtheric material.

In odd cases the wart-like growths, following pustules, may be seen on the skin almost all over the body, especially the legs.

## Treatment.

When the lesions are almost confined to the comb they can be treated with tincture of iodine, after the pustules have been opened. If the eyes and mouth are badly affected or the skin shows extensive lesions, it is far better to kill the bird. Occasional white particles in the mouth can be removed and the lesions then painted with tincture of iodine, and if the eyes are not bad they can be washed twice daily with a 1 in 2,000 copper sulphate solution. People handling sick birds should not handle healthy ones, and it is absolutely essential to isolate sick from healthy fowls. Fowl-pox organisms can live in the soil for a few months, and are carried on the hands, clothing, and shoes of people coming in contact with cases of the disease.

## Preventive Measures.

(a) Always be on the look-out for cases of chicken pox, and do not hesitate to kill and burn diseased birds, unless the number affected is so large that the owner feels he must attempt to treat them. Treatment is most successful when the lesions are confined to the skin.

(b) Correct defects in the hygiene.

(c) Feed properly and supply a sufficiency of vitamin A which occurs in green food and yellow maize. Sour skim milk helps to build body vigour.

(d) Control internal and external parasites, including mosquitoes.

(e) Provide pure uncontaminated water.

(f) Isolate for at least two weeks all newly-purchased fowls and turkeys, and those returning from shows and competitions.

(g) Vaccinate regularly; this is the most important measure.

## Immunisation.

If chickens are vaccinated when in good health and being well fed, etc., they should not suffer from the process. Rarely, however, they show temporary retardation of growth, but the experience is that such chickens are indistinguishable from the others by the time they are four to five months old. If the fowls are inoculated when over three months old, they may

go light and not lay well, but such cases are most unusual. Contrary to popular belief, there is no evidence to suggest that annual inoculation leads to the establishment of chicken pox on a farm. When all susceptible birds are inoculated more or less at the same time, the infection seems to die out very soon.

Generally speaking, vaccination should be done when the chicks are two to six weeks old, but even day-old chicks can be vaccinated.

Chicken-pox vaccine is issued in glass bottles, and should be used not later than seven days after receipt. Do not expose it to direct sunlight. Bottles must not be kept in a vertical position, as a sediment forms which is difficult to break up by shaking. Store bottles lying flat. Shake the bottle very well before use, breaking up any sediment.

Instruct an assistant to hold the bird to be vaccinated on its side with the feet towards the operator. Grasp the upper foot and pull the leg out straight. To obtain open feather follicles, remove a dozen feathers on the outside of the thigh, by plucking. Disinfectant soap or no account be used. Rub the plucked area with the end of the glass rod to which adheres a drop of vaccine. Keep stirring the vaccine. After every five chickens, wash the glass rod in hot water and dry it thoroughly before continuing with the operation.

Reacting birds show swelling of the vaccinated feather follicles after three or more days. Usually no constitutional symptoms are noted. Later the follicles regain their normal size, and a thin layer of skin is shed at the vaccination site.

Vaccination will not cure, but only prevent chicken pox, and cannot be expected to help much if most of the fowls in a flock are affected, since it takes at least fourteen days for immunity to develop.

The price of the vaccine is 3s. 6d. for sufficient material to vaccinate 100 chickens. Vaccine is obtainable in 50, 100, and 150-dose bottles every Tuesday and Friday from the Officer-in-Charge, Alberton Laboratory, P.O. Box 408, Pietermaritzburg, Natal.

Although every care is taken in the preparation of the vaccine, the Department accepts no responsibility for any ill-effects which may occur as a result of its use.

## Veeartseny Onderzoek

Pluimveeboorte sal lity wees om te verneem dat nog 'n voltydse Veearts op Onderstepoort in pluimveeboortingswerk aangestel is.

Harde beempte het in die Verenigde State van Amerika 'n wye ondervinding Coccidiosis opgedoen en sal hom op harde plaag toek.

Weens die feit dat die teenwoordige voorraad gis lepek is, word alle pogings deur Onderstepoort aangewend om 'n goedkoop en doeltreffende bron van Vitamien B2 te vind.

Dit is geboep dat die pogings van die Vereniging sal veroorsaak dat groter voorrade gis hinskort van Pietermaritzburg, Port Elizabeth en Kaapstad verkrygbaar sal wees.

## Uitgesoekte Eier Reseppe

### GEROOSTE STAMBOU.

- |                         |                              |
|-------------------------|------------------------------|
| 1 teelepel sout,        | 2 eiergele.                  |
| 1 teelepel suiker.      | 1/4 teelepel gesuete botter. |
| 1 teelepel saiker.      | 1 koppie melk.               |
| Paar koppies rooipeper. | 1 koppie aya.                |
| 2 teelepels meelkrom.   |                              |

- (1) Meng droë bestanddele.
- (2) Voeg eiersuik-gelapte eiergele, botter, melk en aya stadig by.
- (3) Kook oor kookende water tot die mengsel dik word.
- (4) Gooi deur 'n af.
- (5) Bedien met stiel.

### HOLLANDSE SOOP.

- |                    |                         |
|--------------------|-------------------------|
| 1/2 koppie botter. | 1 teelepel sout.        |
| 2 eiergele.        | Paar koppies rooipeper. |
| 1 teelepel saiker. | 1 koppie kookwater.     |

- (1) In die boonste afdeling van 'n dubbele kastrol plaas 1/2 van die botter, die eiergele en saiker.
- (2) Plaas oor kookende water en roer met 'n draadlinter totdat die botter gesmol is.
- (3) Voeg nog 'n derde van die botter by en wanneer die mengsel dik word die res.
- (4) Voeg die water by, kook vir een minuut en voeg sout en peper by.
- (5) Bedien warm met gekookte groente, vis of vleis.

### III.—EIERNAGERTJE.

#### GERASTE VLA.

- |                  |                    |
|------------------|--------------------|
| 4 eiers.         | 1/2 teelepel sout. |
| 2 koppies melk.  | Geraspte aart.     |
| 1 koppie saiker. |                    |

- (1) Klop eiers en saiker saam.
- (2) Verwarm die melk 'n bietjie.
- (3) Gooi dit by die eiers en saiker.
- (4) Gooi die mengsel in 'n 'n gesuete bakstrol en plaas die strol in 'n pan met water.
- (5) Bak in 'n middelmatige oond totdat dit goed is.

N.B.—Die oond moet warm wees en, anders sal die vla vol gate en waterig wees.

#### SWAARSE ROOP.

- |                       |  |
|-----------------------|--|
| 2 teelepels gelatien. | 1 koppie saiker.                       |
| 2 koppies melk.       | 1 teelepel sout.                       |
| 3 eiers.              | 1 teelepel vanille of 2 teelepels wyn. |

- (1) Maak die melk warm.
- (2) Week die gelatien in 'n 1/2 koppie water.
- (3) Voeg saiker by die mengsel.
- (4) Klop die mengsel effens deeglik.
- (5) Gooi die warm melk stadig oor die mengsel en meng.
- (6) Gooi terug in die kastrol en kook oor kook-water in 'n dubbelkastrol totdat dit dik is.
- (7) Haal van die vuur af, voeg gelatien by, voeg sout by en laat afkoel.
- (8) Wanneer dit begin stel, voeg die goedgelapte wit van die eiers in, en voeg wyn of vanille by.
- (9) Gooi uit in 'n nat vorm.
- (10) Laat stel en bedien met room of vla.

(Die Broodery in Suid Afrika.)

Geliewe ondersteuning aan adverteerders te verleen, en maak melding van "Die S.A.P.V. Bulletin" wanneer U dit doen.

## HELP US TO HELP YOU

YOU NEED OUR HELP FOR YOUR PROBLEMS AND WE NEED YOUR HELP FOR THE PROBLEMS OF THE INDUSTRY, WHICH ARE YOUR PROBLEMS TOO.

1. Advertise in your Bulletin.
2. Support only advertisers who support your Bulletin.
3. Get new members.

## HELP ONS OM U TE HELP

VIR U MOEILIKHEDE HIT U ONS HULP NODIG, TERWYL ONS U HULP VIR DIE MOEILIKHEDE VAN DIE BEDRYF NODIG HIT, WANT HULLE IS U MOEILIKHEDE OOK.

1. Adverteer in u Bulletin.
2. Ondersteun selgs adverteerders wat u Bulletin ondersteun.
3. Verky nuwe lede.

### "The S.A.P.A. Poultry Bulletin."

#### DISTRIBUTION.

The S.A.P.A. Poultry Bulletin is distributed gratis to all members of Clubs, Societies, Egg Clubs and individual members affiliated to the South African Poultry Association.

#### CORRESPONDENCE.

All correspondence must be addressed to the Secretary, S.A. Poultry Association, P.O. Box 176, Johannesburg.

#### ADVERTISING TARIFF.

Cost Per Each Insertion.

	12.	6.	3.
Eight of year	£1 10 0	£7 10 0	£3 0 0
Quarter of year	£ 3 0 0	£ 1 10 0	£ 0 0 0
Half of year	£ 5 0 0	£ 2 10 0	£ 0 0 0
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#### CONDITIONS PERTAINING TO ADVERTISEMENTS.

1. While every care will be taken to ensure accuracy of advertisements, no responsibility can be accepted for losses arising from typographical or other errors.
2. Only expressly approved accounts are payable monthly, otherwise monthly must accompany the order.
3. "Bulletins" will be accepted only when cash accompanies order.
4. All advertisements are subject to being edited before acceptance.
5. New advertisements, cancellation of advertisements, or alterations to wording, must reach the Secretary by the 15th of each month preceding the month of issue.
6. All cheques to be made payable to "The South African Poultry Association," and must include exchange.
7. The right is reserved of refusing any advertisements without accepting any reason for doing so.

### "Die S.A.P.V. Pluimvee Bulletin."

#### VERSPREKING.

Die S.A.P.V. Pluimvee Bulletin word gratis versprei onder alle lede van Klubs, Verenigings, Eierskare en individueel lede geaffilieer aan die Suid-Afrikaanse Pluimveevereniging.

#### KORRESPONDENSIE.

Alle korrespondensie moet aan die Sekretaris, S.A. Pluimveevereniging, Postbus 176, Johannesburg, gestuur word.

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Koste vir Elke Plasing.

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#### VOORWAARDE MET BETREKING TOT ADVERTENSIE.

1. Terwyl alle versigtigheid vir die akkuraatheid van adverteerders getel sal word, kan geen aanspreekbaarheid vir enige verlies as 'n gevolg van tipografiese of ander fout gemaak word nie.
2. Alleen spesiaal goedgekeurde rekeninge is maandeliks betaalbaar, en 'n alle omlaag getuie moet betrefende met betrekking gestuur word.
3. "Klubs" adverteerders sal altyd aanspreekers word wanneer kennis in betrekking versprei.
4. Alle adverteerders is aanspreekers vir lewende woordele beide aanspreekers word.
5. Nuwe adverteerders, terugtrekking van adverteerders, of wysigings van woordele moet die Sekretaris bereik op of voor die 15de van elke maand voor die volgende uitgawe verskyn.
6. Alle cheques moet betaalbaar gemaak word aan "Die Suid-Afrikaanse Pluimveevereniging" en moet wisselgeld insluit.
7. Die reg is behou om enige adverteerders te weier sonder om enige rede daaraan te gee.