

# FARMSTOCK

STOCKBREEDERS' & FARMERS' MONTHLY  
NEWS, SALES & ADVISORY SERVICE ON ● LIVESTOCK ● POULTRY ● FISHING  
● HORTICULTURE ● FARMING & ● FOODSTUFFS ETC.

In this edition  
Fish for the millions p. 13  
The vet. in a developing  
nation pp. 10 & 11

OCT. '69

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## OPINION

### YOUTHS & FARMING

Only the hypocrite will not admit that all over this country now, there is a gradual and steady movement to farming. Time there was when a slogan or two did nothing to push the people 'back to the land' but fortunately nowadays, economic circumstances, though hard to admit, are making more and more to realize that the land has an answer for their headaches and business impasse.

There was the timber rush when all the able bodied strove to become a timber merchant, clerks and technicians abandoned their offices and work-desks for the bush, until the glut sent back the flotsam and jetsam of that craze scrambling for other ventures.

So, too was the import and export mania. It was not until the attention of the Government was drawn to the various malpractices that drastic measures were undertaken resulting in mass exit of many an 'export manager' from that line. And there were scores.

But youths are always coming, the toddlers of today are the youths of tomorrow. Before they grope into blind alleys the country will benefit immensely by attracting them into farming.

*Continued on page 7*

# TOUGH AND RUGGED!

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## MONTHLY ADVISORY SERIES

**BODYWEIGHT AND EGG PRODUCTION.**

**T**HAT THERE IS AN IMPORTANT CONNECTION BETWEEN THE BODYWEIGHT OF LAYING BIRDS AND THEIR EGG PRODUCTION IS WELL KNOWN. THERE ARE TWO ASPECTS TO THIS CONNECTION, GENETIC, AND ENVIRONMENTAL. ON THE GENETIC SIDE SELECTION OF BIRDS TO GROW RAPIDLY WILL ALSO LOWER THE EGG PRODUCTION OF THE STRAIN.

**BROILER BREEDERS GIVE A PRACTICAL DEMONSTRATION OF THIS EFFECT. SELECTED FOR FAST GROWTH RATE THEY LAY ONLY ABOUT HALF AS MANY EGGS AS ONE OF THE MUCH LIGHTER STRAINS USED FOR EGG PRODUCTION.**

**ON THE ENVIRONMENTAL SIDE BIRDS WHICH ARE TOO SMALL, DUE TO POOR FEEDING, DISEASE, OR SOME OTHER PROBLEM WILL NOT LAY WELL, AND ON THE OTHER HAND SOME BIRDS, SUCH AS BROILER BREEDERS, MAY GROW TOO FAT TO LAY WELL, UNLESS THE FEEDING IS RESTRICTED.**

There was a strain effect on body weight since obviously some strains are heavier than others. There was also a farm effect on bodyweight, since on some farms all the strains grew faster than on other farms. In the same way there were both strain and farm effects on other characteristics, egg

As well as the regression coefficient, I have shown in the Table the mean of each characteristic for all farms and strains, and another figure called the "coefficient of variation". The exact meaning of this need not concern us, but a high value means that there is a lot of variation between farms or strains (as for mortality) and a low figure means that is very little difference between farms or strains as for egg weight).

The figures show expected connection between point of lay weight and end of lay bodyweight. The connection is greater for strains than for farms. Two strains that differ by 1 ounce at point of lay will differ by 1.50 ounces by the end of lay. On the other hand two farms which differ in the weight their pullets reach by point of lay by one ounce will only differ by 0.61 of an ounce by end of lay.

This means that difference due to breeding tend to increase during lay but the difference is due to something that happens during the rearing period on the different farms the birds will tend to make up for any set-back during the laying period and, will finish nearer the same weight they started. However they will not completely catch up 61% of the difference will still be there.

Age at fifty per cent production is a measure of maturity. Lighter strains of birds start laying earlier and heavier ones later. The difference in these trials was 61 days per ounce, so two strains were 4 ounces different in weight the light would reach 50% 4 weeks about two and a half days before the heavier one.

by

L. J. Elmslie M. A. [Cantab]

Technical Director, Ejinaka &amp; Thornber Ltd.

A recent paper in 'Poultry Science' by Nordskog and Briggs gives a lot of useful information on the relationship between bodyweight and egg production in laying strains of chickens. These scientists studied the result of the Iowa Multiple Unit Poultry Test for a period of four years. This Test is a comparison between the different strains of layers, most of them White Leghorn type Hybrids which are on sale in Iowa.

The principal reason for the test is to make a comparison between the different strains so that farmers buying day old chicks will have information on which to decide the type of bird which will best suit their needs. Sixteen strains of birds were tested in each of the four years studied by Nordskog and Briggs.

All sixteen strains were tested on each of a number of farms, sixteen farms in the first two years and twenty farms in the second two years. Each farm had four pens of each strain, making a total of 64 pens per farm.

All the birds on each farm were hatched at the same time and fed and managed

in the same way, so that the comparison between strains could be fair. There were, of course, differences between the farms in the Test, some were better managed and the birds performed better, others had troubles of one kind and another. The test was run on so many farms to make sure that the comparison between strains was fair.

If it had only been on one farm there might have been some thing on the farm which helped or hindered one strain, and so the results could have been misleading, and farmers would have bought the wrong sort of birds in consequence. Because the Test was run on so many farms it was possible to get from it not only information about the strains, but about the effect of bodyweight on egg production as both an environmental and a genetic effect.

production, mortality, and egg weight. There would have been one on food consumption too but that was not recorded in this report.

Nordskog and Briggs have shown how these characteristics vary with changes in point of lay bodyweight. Their results, summarised in Table 1, see p. 7 are presented in the form of a "regression coefficient", which here means the amount of difference in egg production (or other characteristic) which will be caused by a one ounce increase in point of lay bodyweight.

(Regression is a very common term in agricultural science, and describes the increase of one thing as another increases. Linear regression, which is what we are concerned with here means that the increase of the second thing is proportional to the increase in the first, the graph of one against the other is a straight line.)

Continue on page 7

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Here are the recommended doses for your livestock and pets :-

Body weight in lbs.	mg/lb. body weight	Dosage in cc
Under 20	—	2 — 3
20 — 50	—	3 — 5
50 — 100	4.0	4 — 8
100 — 200	2.5	5 — 10
200 — 500	2.0	8 — 20
500 — 1000	1.0	10 — 20
Above 1000	1.0	Above 20



Continued from page 4

**BODYWEIGHT**

This is an advantage for light birds. On the other hand you will see from the Table that for farms the regression coefficient has a minus sign.

This means that heavier birds start to lay sooner, not later, when the extra weight is due to the farm and the way the birds have been reared, that is the environment. So once a farmer has chosen his day olds they will come into lay sooner if they are reared to grow quickly, and the differ-

ence will be 1.94 days for every ounce difference in weight. A four ounce difference in weight will therefore make a  $4 \times 1.94$  i.e. about 8 days difference in the age at which birds reach 50% production.

Eggs per bird follow a similar pattern to age at 50% production. Lighter strains lay more eggs than heavier strains, but after the farmer has chosen his strain he should try to get the birds as heavy as possible by point of lay. An extra ounce at point of lay will add about  $2\frac{1}{2}$  eggs per bird to the years production. It will be noticed that the vari-

ation between farms is greater than that between strains, and is also more for egg production than for bodyweight or age at 50% production.

The figures show that bodyweight is a little bit related to mortality between strains, but not between farms. Even that between strains is not of much practical importance. The variation in mortality is very high, especially between farms, no doubt due to there being disease and other problems on some farms but not on others.

Egg weight in these trials shows very little variation

and is not connected to bodyweight at all. This result is partly due to strains of birds in the Tests. There were very few except hybrids of the white Leghorn type. Therefore it would be a mistake to imagine that these results tell us anything about brown egg birds or heavy breeds.

They do tell us quite a lot about how to choose and manage white egg light hybrids. The lesson is to choose a light bodied strain and then to get it as heavy as you can by point of lay. The result will be earlier maturity, and higher egg production.

TABLE I

Characteristic	Average	Regression Coefficient		Coefficient of variation	
		Strains	Farms	Strains	Farms
Point of lay weight	3 lbs. 4 ozs.			7	7
End of lay weight	4 " 6 "	1.41	0.61	8	7
Age at 50% prod.	183 days	0.61	-1.94	5	9
Eggs/hen housed	184 eggs	-1.64	2.61	6	10
Eggs/hen day	196 eggs	-1.75	2.41	8	11
Laying mortality %	12.4%	-0.31	—	34	50
210 day egg weight	22.6 ozs./dozen	—	—	2	3
400 day egg weight	26.2 " "	—	—	2	4

Continued from page 4

**OPINION**

Farming is a wide and complex industry wherein enough room can be found for as many as may come forward.

Stockbreeding, horticulture and crop farming offer limitless opportunities. The State Government may not depend only on its regular functionaries but invite volunteers who will help spread knowledge and information about farming.

Shows are to be organised and local people encouraged to arrange Shows on their own.

In this way some youths will be pinned down to farming. Since youths like to copy one another, it is more than probable that more and more yearly will switch to farming — to everybody's good.

The distributive trade in livestock and grocery will also get a booster. In effect more jobs will be created.

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## LETTERS

## AGRIC SHOWS

Dear Sir,

It is surprising to note that Agricultural shows are not held here, an agricultural country for that matter. One of my main reasons for returning home is to help popularise mechanical equipment at Agric shows. I feel stranded at home.

We must organise these shows from local to district, state and then federal levels. While I do not want to make an article of this letter, your magazine should see to it that these exercises are taking place.

What of starting a poultry show since more are practising poultry now than any other form of farming. The idea is to popularise a good method and thereby encourage the farmer of a good product be it livestock, fruit or vegetable.

In such shows, sales are also promoted. The village farmer who hitherto usually buries his cash for want of what to invest it upon, is introduced to mechanised farming.

He soon sees the advantages of mechanised farming thus —

- (1) No more arduous tilling of the soil manually.
- (2) Larger area can be cultivated within a short time
- (3) Possibility of attracting bank loans to finance projects
- (4) More and better produce for sale, and the most important
- (5) Improved standard of living.

I do hope the Farmstock will do something serious about this problem.

Kano

Moh. Ladan

*Editor's Note:*

*The promotion of Agric Shows is a financial task too big for Farmstock. Only the State Governments and the Federal Ministry of Mines, Power & Natural Resources are capable of tackling these promotions. But if an attempt is started anywhere, surely Farmstock will play its part timely.*

X X X

## NEWS ROUND-UP

Sir, These seems to be a partiality in your presentation of news. I have noticed over the months that your news coverage is as follows:

- (1) World and news from
- (2) Either N. W. or S E. state. Since there are more states than two, I cannot understand why only two are given prominence.

Minna

Ibn Said

*Editor's Note:*

*We publish news with an Agriculture bias sent to us by those who care. All State and Federal Ministries of Agriculture and Information were appealed to for releases and news bulletins, but as usual someone is always too busy to do the right thing and there is no checking from above about what is done when, how and by whom. Sorry brother, take it cool, we are in Nigeria.*

## GENERAL FARMING

Dear Sir, Your informative magazine has left out general farming too much out of the show. Much space has been devoted to Livestock. While I have enjoyed the magazine so far, I do

not want to invest in Livestock but with nature itself the soil; and I feel there are many like me who want to desert the pen, hammer and brush for the plough. Please educate us on general farming.

Lagos.

Duro Omosoro

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THE SIGNIFICANT CONTRIBUTION MADE BY BRITISH BULLS TO WORLD AGRICULTURE IS SHOWN BY AN 80 PER CENT. INCREASE IN SEMEN EXPORTS DURING THE YEAR ENDED 31st JULY. BRITAIN WITH WIDE EXPERIENCE OF STOCK-BREEDING AND ARTIFICIAL INSEMINATION TECHNIQUES, HAS VALUABLE RESOURCES FOR THE AMBITIOUS BREEDER.

# BRITISH SEMEN EXPORTS =

## A Record Year

BY SANDY MACDONALD

Secretary, British Semen Exports, Ltd.

Bulls bred in Britain are making a significant contribution to agriculture all over the world, through the efforts of a young company, British Semen Exports Ltd., (B. S. E.) which have just concluded a record year for sales of Semen to overseas countries.

In fact, the export of 30,000 doses of semen to 26 countries during the year ended 31st July 1969 represents an increase of over 80 per cent, compared with the previous trading year.

How do British Semen Exports operate? Briefly, it is a company formed in 1960 to co-ordinate the sale and export of semen from Britain, to promote the interests of British breeds abroad by the sales of semen and to enable breeders and Artificial Insemination (A. I.) organisations to sell semen overseas.

B. S. E. act as an agent for the sales of semen and receive their income from commission on semen sales and (A. I.) equipment.

They have a small permanent staff and a directorate consisting of representatives of breed societies and (A. I.) organisations.

One of the main objects of the company is to help the private breeder to sell semen abroad as easily as he can in Britain—and in many cases has succeeded.

### BRITISH BREEDS

During the last trading year, semen from 15 British

breeds was exported to 26 countries. But many countries have A. I. organisations of their own, and America and other nations also export semen. Why then is so much British semen exported? Britain, with its long history of stock-breeding and its wide experience in A. I. techniques does have certain advantages.

Britain is an island which is comparatively free from cattle disease. Thus semen can be collected from bulls at cattle breeding centres where animals are under constant veterinary supervision. Every six months bulls are tested for tuberculosis and brucellosis and before semen is exported bulls have to be tested and licensed by veterinary surgeons of the Ministry of Agriculture. Perhaps most important, all semen sent overseas is collected from tested pedigree sires.

The semen itself is usually exported in liquid nitrogen containers and is processed in 0.5 c.c plastic straws which are ready for use when they are thawed. Extensive experimental work has shown the effectiveness of this method.

Nevertheless, local veterinary officers in Britain say that a major factor is the difficulty sometimes experienced in detecting when the cow is at the correct stage of heat and inseminating at the right time.

### ALL TYPES OF SEMEN

During the last trading year B. S. E. exported semen from 15 breeds. Friesians and Jerseys dominated the dairy breeds and Charolais was the most popular beef breed. Semen collected from virtually any British bull can be

exported. B. S. E.'s experience has shown how many different roles British semen can play.

For instance, British Friesian semen has been used in the Middle East to improve the cow udders. In France, Ayrshire semen has been crossed with indigenous breeds to improve their dual purpose characteristics. Kenya has imported Beef Shorthorns, Devon and Sussex

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## JOHN HOLT MOTORS



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*See page 14 for Rates. Advertisements should reach us a month before the date of publication.*

In the previous article our guest writer discussed General health, our food problem, diseases their carriers aided by primitive customs. He concluded by discussing our livestock abattoir and meat inspection as he touched on milk and its health giving properties. Now go on please.

Animals are great health hazards to a human population. This becomes more serious in areas where medical facilities are wanting and in regions where local customs and superstitions bring some animals to the level of demi-gods. A visit to our rural areas will reveal to us the close association existing between our animals and our people.

It is not surprising to see goats sharing the same rooms with the young children at night.

The goats and sometimes sheep often share of the foodstuffs like gari, yam etc. carelessly left about the whole place.

In our homes such sights as children and old woman collecting faecal droppings left in the trail of the herdsman and his charges are not uncommon.

**FASHION CUM DISEASE CARRIER.**

These droppings serve the purpose of polish for the floor especially during festivals. One only has to consider the innumerable

# THE VETERINARY DEVELOPING

diseases that can be transmitted from animals to man to see the havoc caused by such customs. Great are the numbers of deaths caused by diseases whose etiology has remained unknown. Great advances in clinical pathology have not even paved the way for providing future basis on which to work

initial springboard greater productivity.

## HALF-HEARTED PLANNING

One of the problems confronting us in Nigeria is that the people plan for our progress so half-heartedly without co-ordination

## TRANSMISSION OF DISEASES

Various attempts setting up state farms have not been too successful, not because lack the administrative personnel but because are acutely short of technical experts technical know-how

A disease like anthrax is blessed with a highly resistant spore which can survive for years on hides, hair wool etc. so it is not impossible to get infected through such articles as leather belt, wigs or even suiting material. This can be of great disaster in a fashion crazy country like Nigeria.

The farms are set in areas where there is virtually unavailable when resort to importing the food and personnel to administer the feed. So our government the original price go to pay the foreign exchange needed to these exotic feed personnel.

The close interrelationship of animal health and human health is not hard to visualise. With over 11 million heads of cattle, a sizeable number of goat sheep, pigs and poultry.

Nigeria has a great livestock potential. It is only by making sure that these animals enjoy good health that this livestock potential can be used as an

Year by year government seems aware of this under state as can be seen excerpts taken from our annual report

Veterinary Division

# ARIAN IN A NATION (2)

by 'Wale Tomori

Faculty of Veterinary Medicine  
Ahmadu Bello University  
Zaria.

not only be protected from the ravages of disease but must also be expanded if our growing population is to be properly nourished.

of this and the lack of that. Nigerians must be encouraged to move into this very important field and jobs must be provided.

(3) Animal Health  
Division 1963-1964  
North Nigeria.

We should think less of prestigious projects that do little or no good to the elevation of the standards of our people - we must go real down to earth and get our livestock really on its feet.

"Staff shortage particularly in livestock section has been particularly acute and during the year most of the diagnostic laboratories were either closed or working at much reduced level for lack of qualified staff."

Enough of these haphazard methods, we must take care of our livestock' we must provide them with highly qualified veterinarians, and hand in hand with development in human medicine, Nigeria must realise that the more the people the hospitals and clinics keep alive, the more acute food problem becomes, and the more we need our excellent source of good proteins - the livestock.

This then has been the general situation in Nigeria to the extent that one state government resorted to giving an intensive training to

Animal Health Assistant to do the job requiring highly skilled professional

## IMPORTANCE OF VETERINARY

Veterinarians. Any wonder we seem to be marking time in the field of livestock production since we had our independence.

From time immemorial, Veterinary Medicine has been like a father to human medicine. It is to the Veterinarian and his charge the medico turns for his vaccines. It is the animals the research chemists use as their testing ground for his new drugs.

Although research stations exist, their results are often kept within the walls of the laboratory for lack of staff to put these into practice-

Since the first Veterinary Medical School was started in France, World Health has been making excellent progress. Will Nigeria be left behind?

It is not enough for the government to be moaning about the lack

the country are to receive adequate attention."

"Efforts to train laboratory technicians is progressing, but for professional grades, the position is unsatisfactory. In the past, few Nigerians have come forward for training for a Veterinary career and we have had to rely on expatriate officers whom we are finding more and more difficult

to attract.

I hope it will not be long before our young people find in Veterinary training prospects of a useful and honourable career for the animal resources of Nigeria must

various state governments viz. (1) 1954/55 Veterinary Division Annual Report.

"The greatest problem of the Veterinary Division has been one staff. Due to the continued scarcity of professional officers,

It is still necessary to organise the field work in the provinces from the Headquarters!"

Nigeria must realize that the more the people the hospitals and clinics keep alive, the more acute food problems become and the more we need our excellent source of proteins — the livestock.

(2) Federal Veterinary Department, Vom 1959 Annual Report. "In spite of staff shortages the department has maintained its valuable work, but it is ordinary that the staff situation should improve, if the many animal health problems of

## News from farms

# IMPROVED COCK EXCHANGED FOR LOCAL ONES

**T**HE NORTH WESTERN STATE MINISTRY OF NATURAL RESOURCES, IN KEEPING WITH ITS GENERAL POLICY OF IMPROVING THE LIVESTOCK RESOURCES OF THE STATE, RECENTLY DISTRIBUTED EXOTIC IMPROVED COCKS IN EXCHANGE FOR LOCAL ONES.

Announcing this here today, the Ministry said that the exchange exercise took place in Dange after adequate unfication had been given in the surrounding villages through the co-operation of the District Head of Dange, Malam Umaru.

In the operation 200 improved young cocks

(5-6 months old) raised at the Poultry Demonstration and Holding Centre, Sokoto were transported to Dange where they were exchanged for the local cocks. Thus, for each cock an individual brought, he got an improved cock in exchange. The exchanged local cocks were brought to the Veterinary

Sub-Centre, Sokoto and sold for meat to the public.

The Ministry expressed the hope that these would be used to breed local hens and thus improve and increase the egg and meat production potential of the birds.

The Ministry said that response to the exercise had been very encouraging, and added that efforts to pursue existing plans in this direction would be intensified to cover strategic locations in various parts of the State.

## CONGRATS TO H. M ESUENE

**T**he South-Eastern State Agricultural Development Corporation and Allied Workers Union has congratulated the State Military Governor, Col. I. J. Esuene, on the appointment of Board members for the Corporation.

In a statement in Calabar recently, the President and Secretary of the Union, Mr. J. B. Udoh and Mr. S. E. Akpan respectfully, described the men appointed into the Board as men of integrity.

The Union expressed the hope that the Board members would discharge their duties effectively.

It pledged its co-operation with the Board and called for cordial relations between the Board and members of the Union in order to promote the economic progress of the State.

## BOOST TO AGRIC IN SES

# FARMERS RECEIVE

**T**he South-Eastern State Government is now in a position to give loans to Licensed Buying Agents in the State.

This was disclosed in Calabar recently by the State Commissioner for Trade and Industry, Chief I. I. Morphy, shortly on his return from an official visit to Lagos.

While in Lagos, the Commissioner held discussions with the Governor and Deputy Governor the Central Bank on how to finance the South-Eastern State Marketing Board.

He also had talks with the Chairman of the Nigerian Produce Marketing Company, Alhaji Dan Chide, on produce evacuation from the State.

# WILL LOANS

Chief Morphy disclosed that steps are being taken to ensure that produce was evacuated in time from the State.

On loans to Licensed Buying Agents, the Commissioner explained that agents who receive the loans must ensure that they use them specifically for buying produce.

He said the object of giving loans to Licensed Buying Agents was to enable

them invest their money in the hands of farmers.

He warned that the Government would not hesitate to revoke the appointment of any Licensed Buying Agents who misuse the loan given to them, or do not pay the correct gazetted produce prices to the farmers.

## AGRIC CHIEF APPEALS FOR LAND

**T**he Controller of Agricultural Services, Mr. Inuaeyen Ndaeyo, has strongly appealed to every division in the South Eastern

State to set aside enough land for Emergency Food Production Programme soon

## GOVT. LOAN TO COOP

The North Western State Ministry of Natural Resources and Cooperatives has given a total - loan of £6,376 : 4 - d including £825 worth of fertilizers to 8 co-operative societies in Bida Division.

A statement received here today from the Bida N. A. Information Office stated that the Provincial Assistant Registrar of Cooperative, Mr. C. E. Steven, has explained that the loans which were given to farmers to enable them improve their farming methods have already been distributed to the society's branches in Bida, Lapai and Agaie. These, the statement further explained, included Jebba-Gungu which received £486; Ciji - £486; Labozhi - £650; Edozhigi - £180; Badeggi - £613; Takuma - £536; Essa - £227; Muwe - £342; Tashibo - £232 Abugi - £272; Duma - £119; Yelwa - £242; Ebbe - £514; Kuchi - £338; Gbamiko - £284; Capa - £265; 10s; Ekogi - £230 and Kurmin Gurmana £320.

Alhaji Sa'idu Madakin Bida, the statement concluded, has on behalf of the Bida N. A. outlined the usefulness of the loan to the farmers and appealed to them to make the best use of it as well as to reimburse it accordingly.

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Continued from page 12

## LAND

to be launched in the State.

Making the appeal to farmers in Uyo, Eket and Enyong Divisions during a recent inspection tour of farms and Plantations there, Mr. Ndaeyo stated that between 2,000 and 3,000 acres of land, in one piece, is expected in each Division for the Scheme.

Explaining the objectives of the Scheme, Mr. Ndaeyo said that it is the intention of the State Government to establish one Food Production Centre in each of the Eleven Divisions in order to combat the present acute shortage and high cost of food as well as avert famine in future in the State.

Besides, he said, the scheme would, among other things, help to accelerate agricultural development in rural areas and go a long way to create employment opportunities for School Leavers and displaced South Easterners.

Continued from page 9

## SEMEN EXPORT

to produce a red beef. Tanzania has used Aberdeen Angus semen to improve beef breeds and Jersey and Friesian to improve dairy breeds. Similarly, Ghana has imported Hereford semen for beef cattle and Jersey and Red Poll for dairy and dual purpose breeds.

Apart from selling semen, B. S. E. have made gifts of semen for market development to India, Formosa and the West Indies. The most

recent example is a gift of 3,000 doses from nine British breeds which has been sent to Peru. It will be used at eight provincial centres in Peru where progeny will be compared with local breeds.

It is possible that this gift will interest Peru and other South American countries in the possibilities of British cattle.

### TRIAL RESULTS

In countries where semen has been given, the results of trials produce useful data when future markets in these areas are being considered.

During the past year Commonwealth countries accounted for most of the semen sales. Australia, New Zealand and India were particularly good customers while a good proportion of semen exported to Africa.

Like any other company, B. S. E. realise the value of selling. Sales missions have been mounted by the company in Kenya (where B. S. E. exhibited at the Nairobi Show), other African countries, New Zealand and Australia.

It is possible that the fairly near future B. S. E. representatives will visit South America where British breeds could well have a promising future.

Sales prospects continue to be good. For instance over 100,000 doses will be exported to Australia over the next two years. As a quarantine period of two years is necessary before export, most of this order is already in store.

So, for the foreseeable future, British bulls will continue to play a major part in world agriculture.

## FISH FOR THE MILLIONS

Fish in recent years have become a common sight. All kinds of fish are now available to feed the nation. It takes a far-sighted fellow to pick on such a venture as the mass production of fish to feed our people.

Fish is perhaps the only animal that is usually consumed as a whole without any side effects i. e. yoyo, and all the parts give the human body certain salts essential to life.

As in all life, fish has classification hence the various types are collectively termed fishes. While the varieties are countless, all fishes fall into three categories; the first group—lean fish contains less than one per cent of fat but has about 10 times that amount of protein.

### HEALTH GIVING

Any food with such a high percentage of protein is a very good food particularly for invalids, small children, pregnant women and the aged. Lean Fish is termed light fish because it is easily digested.

The other main group is the Fat Fish because of its fatty contents, its flesh mainly oil and water including about 15% fat in addition to its protein contents has more heat giving properties for the consumer than lean fish.

In between these two main groups is the intermediate fish which combines both protein and oil in unequal proportions according to its specie.

### SAFEST FOOD

Fish is undoubtedly the safest human food in that it does not harbour disease. As soon as a fish is infected it either over-powers the disease or dies of it within a few hours. If it is caught in the net before it survives the ordeal, its dead carcass

rots away fast.

Historically, fish is the only animal that is free from ugly stories hence it is eaten with equal relish all the world over by all shades of opinion, creed and clime.

Fish protein is better in many respects than any other animal equivalent. Fish is delicious. Good cooks and house wives are happy when they have to prepare fish. The preparation takes little time and the finished food is usually tastefully fragrant.

Fish soup is always welcome. Other essential nutrients obtained from fish through its oil are vitamins and calcium. Small fishes eaten whole are particularly good in supplying all these qualities.

Economically, fish is the only animal that can be bought for the smallest Nigerian coin—a half-penny. Hence, a pauper or the jobless who has only a small money to spare for food is well taken care of by a plate of fish soup.

### FISH PRESERVATION

It is of interest to fish dealers particularly in places far from the coast to learn of the scientific strides that have been made recently in the preservation of fish. The ice will soon be an old idea. (See our last month's edition)

— Correspondent

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## FARMERS CLUB

in your area and inform  
FARMSTOCK. We shall help build it

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from our animal correspondent



## Let's think of a Rabbit Business

IT IS PLEASING TO VOTE THAT MANY PEOPLE WANT TO HAVE A BUSINESS OF THEIR OWN. THEY WANT TO NURSE IT AND PUT IN EVERY WORKABLE IDEA TO INCREASE THEIR PROFITS. SO FAR SO GOOD. WHAT BUSINESS WOULD YOU DO ?

One inexpensive but very profitable business is the keeping of rabbits. Let's now go into a small scale rabbit business. We shall import the Hybrid Norfolk White. The landing and handling charges of 9 does and a bulk we may say are £90.

A small space in an out house or garage if one has to be rented may be about £1 monthly (area 12' x 10' or 120sq. ft) for food, green leaves plus a bag of a balanced ration mainly pellets monthly (say) £1: 10/-. A small set of equipment is needed and allowing for about 400 by the end of a year, an outlay of £5 is about enough.

For a start a cage 18 inches wide x 3' 6" long is sufficient for each doe. Three can be built together in a row to be 18 inches x 10' 6" long. The frame is completely covered with

wire gauze ensuring that the floor wire is strong enough to support about 12 lbs (to allow for the weight of a full grown doe and buck during mating).

The apartment for the whole lot of nine can be built in tiers with corrugated sheeting as floors below the wire mesh for droppings and other mess. So that in a room of 120 square ft only a small portion of 18 inches x 10' 6" ft i.e. 15.75 sq. ft is used initially. The single buck can be kept in a box in any section of the space until the mating starts when it will be introduced into each cage in turn.

Let us say a keeper earns £5 monthly and for supervisory and maintenance services the owner rates himself £10, total labour cost monthly will therefore be £15.

The initial batch will be at the age of 8 weeks for the does and 12 weeks for

the buck. By then, they are weaned and ready to start growing. For table consumption rabbits are ready as from two months. At three months, the flesh tissues are well formed.

A female rabbit is ready for crossing as from five months and conception is between 30 and 31 days. After the litter (production of young ones) the doe weans its offspring in 6 weeks. These young can now feed properly on their own. The mother doe is separated from the litter and allowed two weeks' rest before the male rabbit is brought in again. In other words, every three months a new set of rabbits is born. First litter is usually 4, this number increases to about six but the average is 5.

In the first year therefore a rabbit farmer may not expect more than 2 litters; in the following year he gets at least 4 and probably 5.

Assuming that the keeper starts marketing after the second litter i.e. after a year's start, how many

Continue on page 18

## RABBITS

Why not make money during your lax periods. An out-house, a disused garage or empty backyard can fetch you extra money from rabbits.

HYBRID

NORFOLK

WHITE

*Fast breeding English rabbits produce more than any other breed Pamphlet on feeding & care given with each order.*

### MINIMUM ORDER :

10 rabbits of 9 females and 1 male.

For more details on price & delivery arrangements please contact,

FARMSTOCK (Rabbits)  
17, Abeokuta Street, J  
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Lagos State, Nigeria.



**C**ASTRATION is the removal of the testicles from the male and ovaries from the female.

Pigs are castrated to maintain the quality of the meat, to prevent uncontrolled breeding, and to prevent the development of boar odour or flavour that occurs in the cooked meat of an uncastrated male.

As a result of castration, male pigs take on the appearance of a sow rather than a boar.

Boars that are no longer useful in the breeding programme may be castrated to remove the boar odour before they are marketed. By the time the castration wound has healed, the odour usually disappears enough to allow the boar to be marketed.

In some countries female swine usually are not castrated

#### TIME TO CASTRATE

Swine may be castrated at any season of the year. Castrating pigs as early as possible lessens the interruption in their growth.

A good time for castrating young pigs is about 2 to 6 weeks of age. At this age, pigs can be more easily handled, the operation is difficult to perform, and wounds heal faster. Also, the quarters of nursing pigs are more sanitary than those of weaned pigs.

#### RESTRAINT

The best way to restrain, or hold swine that are to be

castrated depends on the age, size of the animals and the number of helpers available.

Two methods that may be used to hold young pigs are:

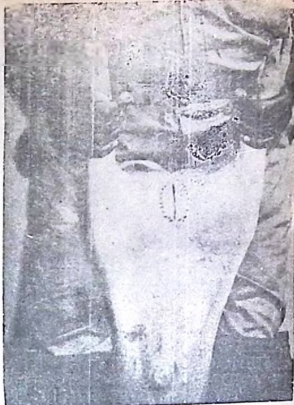
Suspending the pig by his hindlegs with his back toward the helper. The helper clamps his knees against the pig's ribs, near the shoulders.

Holding the pig on its back on top of a table. This requires two helpers. One helper grasps the front legs and the other helper grasps the the legs; the person doing the castrating stands to one side of the pig.

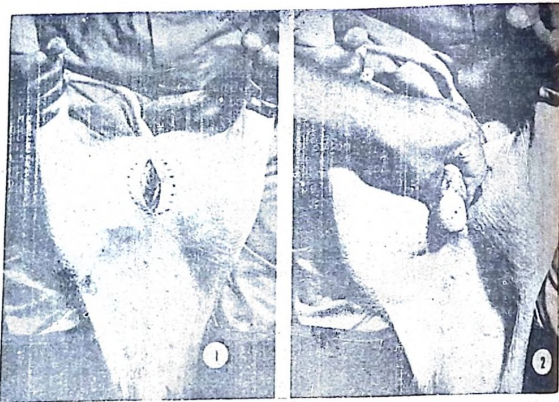
A large boar can be restrained in several ways. No matter which way you choose, you must begin by snaring him about the upper jaw. Make certain that the snare is around the upper jaw and behind the tusks. Tie the free end of the snare to a post.

After the boar is securely snared, it can be restrained

*Continue in col 5.*



*The solid line shows where to make incision between the testicles. The dotted lines show the location of the testicles.*



(1) Make the incision between the testicles as deep as a testicle is thick and twice as long as a testicle.

(2) Squeeze the first out through the incision.

- Due to popular request, this article first published in July '68 is repeated slightly modified.

## Castration Improves Pork

Continued from page 16

for castration by tying all four legs or by hoisting its hind-legs.

Tie a boar with ropes on its legs. Then, throw the boar on to its side in a position for castration. Helpers can keep the boar in position with the ropes or the ropes can be tied to strong posts.

Hoist a boar's hindlegs using a block and tackle. Pass a chain or rope around the boar's body just in front of his hindlegs to make a loop; fasten the loop to a pulley of the block and tackle. Hoist the boar until the hind feet are off the ground.

### THE OPERATION

The first step is to make an incision in the scrotum—the pouch of skin containing the

testicles. This may be done with one or two incisions. The one incision method has the advantage of producing a single wound that usually is located for good drainage and rapid healing.

### PROBLEMS IN CASTRATION

Most of the disorders in the reproductive organs of female swine are either undescended testicles or ruptures (scrotal hernias).

When castrating a large number of pigs at one time, those with either of these conditions should be put aside and operated on separately. If possible, you should have a veterinarian repair a rupture or remove an undescended testicle.

If swine are clean and dry, no skin antiseptic is needed.

When they are dirty and the operation cannot be postponed, wash the scrotal area between the hindlegs with soapy water using a coarse fiber brush.

After washing, the area may be disinfected with an antiseptic solution such as two percent solution of cresol.

### PIGS

If the pig is held on its back, press the testicles downward toward the pig's navel to a position between the fleshy part of the hams.

If the pig is held up by its hindlegs, the testicles will slip into position between the fleshy part of ham. Keep the testicles in position when making the incision by placing your fingers just above the testicles.

Cut directly between the testicles. Make the incision as deep as a testicle is thick and about twice as long as a testicle.

By squeezing with your thumb and forefinger, one testicle can usually be brought out through the incision. Sometimes it is necessary to make an additional incision inside the main incision to expose the first testicle. Hold the testicle with your thumb and forefinger when making this incision.

Pull lightly on the testicle to draw the cord out through the incision. Cut the cord near the edge of the incision.

Hold the second testicle with your thumb and forefinger and cut through the tissue that surrounds the testicle. This testicle can be brought out and its cord cut in the same way as the first testicle. Small pigs need no further treatment. The incision usually heals in 2 to 3 weeks.

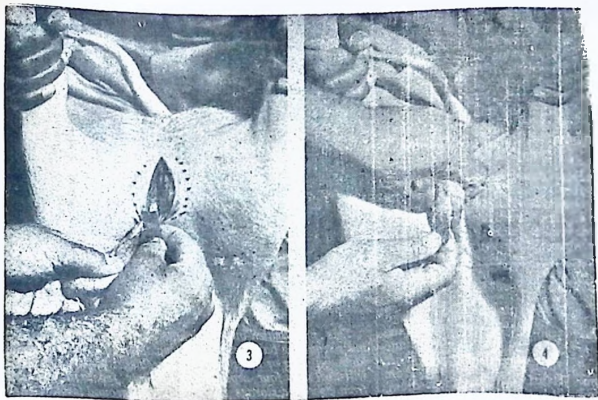
### SELLING UNCASTRATED BOARS

Many mature boars are sent to market uncastrated. They are sold to packing plants that can use meat from boar carcasses. If you are considering castrating a boar before selling him, check the loss in price. Often the reduced price of an uncastrated boar is less than the cost of feed and labour in keeping a castrated boar until he is ready for market.

### BOARS

The one-incision method is less difficult for large boars than the two-incision method because the skin of the scrotum is not nearly as thick and tough along the midline as over the testicles.

To remove the boar's testicles, the incision must be made through the scrotum because the testicles will slip down between the ham and the scrotum as they are held up. Hold the scrotum with one hand, and make the incision with the other.



(3) Pull the testicles lightly to stretch the cord. Place your knife (or a clean single-edged razor blade) against the cord near the edge of incision and cut the cord.

(4) Make the smaller incision inside; the main incision to expose the second testicle.

Continue overleaf

Continued from page 15

rabbits are likely to be in his farm and what are the probable cost and selling prices?

Starting in January, with nine does and one buck, the first litter comes off in May. Since each doe produces at least 4 offsprings of equal sexes, the whole nine will produce (9 x 4) 36 of 18 males and 18 females. By Aug. the original 9 will litter again producing another set of 18 males and 18

females.

In November the original 9 plus the 18 young females of May making 27 will litter 108 of 54 males and 54 females. In January the original 9 plus the 18 of May, plus 18 in August plus 18 in Nov. making 63 will litter at least 252 baby rabbits and so on and so forth. So in the first year one would have got 18 young male rabbits (at least) to sell in August (2 months old) 54 young ones to sell in January and over 100 in the following March.

What about costing? It is good to estimate on a yr. thus —	
Initial flock of 10 rabbits	£90 - -
Cage (allowing for expansion) of flock.	
4 sets of 3 tiers each at £5 per set of tiers	20 - -
Rent of space at £1 per month	12 - -
Food at £1 10/- per month	18 - -
Feeding equipment	5 - -
Keeper's salary at £5 per month.	60 - -
Remuneration for management at £10 per mth.	120 - -
Depreciation of equipment at 2/6 per month	1 10 - -
	<hr/>
Overheads for the year	326 10 -
	10 10 -
	<hr/>
	337 - -
Interest on Outlay at (say) 10%	33 - -
	<hr/>
	£370 - -
Profit at 12.5%	44 - -
	<hr/>
Grand Total	£414 5 -

Assuming that there are 400 rabbits on the farm by the following March and each is roughly 6 lbs in weight each rabbit then costs £1 4/- if we realize that chicken sells roughly at 4/- a pound. The total value of the flock will therefore be £1 : 4/- x 400 i.e. £480. If the outlay plus profit is £420, then an additional profit of £60 which we shall call scarcity value has been made.

By the second year of operation the unit cost will fall considerable low to make selling a whole rabbit at 15/- or less a really rollicking business.

**NOTE**

After a break of some period to see what interest people are showing in our first series on rabbits our Animal Correspondent Mr A. Olukotun begins a series of articles and answers to questions in our November issue. So send in your enquiries, questions and opinion to our Rabbit Correspondent who will strive to satisfy you please, Editor

**PORK**

Continued from page 15

Start the incision between the testicles, at the middle of the scrotum and cut down to the bottom of the scrotum. Extend the incision beyond the edge of the scrotum. Make the incision large enough to remove the testicles

and to provide good drainage.

By squeezing with one hand pulling on the testicle and cord with your other hand, the testicle can be freed from its attachments in the scrotum. It is preferable to remove the testicle with its coverings intact. However, if the covering is cut through and the

testicle is exposed, continue the operation. If possible remove the testicle covering from the scrotum after the testicle is removed.

Usually, it is necessary to cut through the tissue dividing the scrotum to expose the second testicle. Then, the testicle can be removed in the same way as the first.

Boars usually need no further treatment. Their incisions usually take longer to heal than the incisions in pigs.

**PRECAUTIONS**

Following castration, most swine need no further treatment. However, if an animal any has unnatural swelling or

appears sluggish, examine carefully. If you feel it needs treatment, have it examined by your veterinarian.

Some of the complications that develop in castrated swine are peritonitis, hemorrhage, septicaemia and scrotal abscess. The best way to prevent these conditions are:

An incision located to provide good drainage.

Clean quarters for newly castrated pigs.

Prompt attention when sluggishness or swelling occurs.

Application of insect repellants when needed, especially in the fly season. In applying repellants, follow instructions on the container label.



This new British-built machine should prove a boon to farmers requiring balanced feed. Specially designed to eliminate land weighing or measuring the ingredients before milling, it will deal with four separate ingredients fed to it by gravity from overhead storage by augers from ground level. Once set the machine can be left unattended. Should any ingredient run out or become blocked, an automatic switch stops the operation. Manufacturer: R. A. Lister & Co.

Dursley, Gloucestershire, England.