

THESIS

Consisting of a Course of Study in

Hog Production

To be taught in

VIRGINIA AGRICULTURAL HIGH SCHOOLS

Submitted

for

Master of Science Degree

IN

AGRICULTURAL EDUCATION

by

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Introduction

The Primary object in the preparation of this course of study in Animal husbandry is to devise a practical plan for presenting the study of hogs in the various schools of this State. There are no two schools that will be able to adopt the same ^e methods in every particular, hence a certain amount of latitude is allowed each instructor in adapting the suggestions given here to his own particular needs.

In selecting the references the author has tried to use those which will be found in the library of the average agricultural high school. It is believed that courses of study are often of little use because of the type of reference material used. The text adopted is "A Study Of Farm Animals" by Plumb and has been found to be very satisfactory in a number of the schools. Since books are constantly being revised in the light of experimental data it is urged that every instructor make use of the latest bulletins as they appear from the various experiment stations. The libraries of two schools in widely different sections of the state were consulted in the selection of references and it is thought a large number of them will be applicable for all schools where hog production is an important feature. It is further hoped that with the elimination of a large number of texts the instructor will be inclined to make us of those suggested.

It will be noted that only the seven breeds most conspicuous in Virginia are mentioned in the study of types and breeds. It is again assumed that the instructor will make the necessary adaptation^{tu} for any unusual breed found in his community.

An agricultural instructor is in a position to organize and plan his work better than most other types of teachers. The fact he is

on the job during the summer months gives him an opportunity for knowing the pupils he will have the next year in any particular course as well as the needs of information of these pupils.

The first job for an agricultural instructor is to determine the references he will need to put across a satisfactory job of teaching in a certain topic. In the case of books it is often only necessary to procure a copy of each for the agricultural library but he should if possible get enough of each bulletin listed in the course of study so that each pupil may have one for his individual use. Again the Instructor has the advantage of being on the job during the summer months and doing all necessary correspondence to make this material available for his pupils. This material should be catalogued so as to be accessible for use at any time the need arises.

Since this course must necessarily make up only a portion of the work in animal husbandry for a year it is left to the instructor to fit the days' work for each month into his system of instruction. It is intended that the course serve as an outline of presentation of the subject of swine, suggesting not only the topics to be treated under such a subject, but also the reference material necessary under each topic.

For the instructor who is giving a unit course in hog production a course of study is almost indispensable. The division of the work into topics attracts the farmers and creates an interest that otherwise does not exist. It is quite probable that among a group of adult farmers there will be several who are quite proficient in some line and each of these should be allowed to take one of the jobs and show the efficiency of the methods he employs.

The course has been put on a job basis so as to divide and analyze each topic on the basis that a farmer does these jobs on his farm.

The text is meant to serve merely as an aid to the instructor in making assignments and as ^{an} outline for the pupil. The assignments in the text will necessarily be bræef and as a result the instructor must resort to a number of outside agencies for supplementary assignments. These are given in the outline that follows directly under the problem which is to be presented. Where a large amount of material is available for any one particular problem it may be advisable to divide the assignment among the pupils and require each to present the topic in a different form.

PLAN OF WORK

	Months	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Session
	Total	9	10	2	2	4	6		5	2	40
1- Judging Swine		5									
2- Types and Breeds		2				4					Y
3- Feeding		2	2				4		1		
4- Care and Housing			2	2							
5- Care of Sow and Litter:							2				
6- Care of Breeding Stock:									2		
7- Care of Fattening Stock									2		
8- Butchering			2								
9- Curing meat			2								
10- Marketing			2								
11- Diseases and Parasites:				X	2					2	

REFERENCES

- 1- Animan Husbandry by Harper-- MacMillan, New York.
- 2- Judging Farm Animals by Plumb-- Orange Judd., New York.
- 3- Types and Breeds of Farm Animals by Plumb-- Ginn And Co., New York.
- 4- Productive Swine Husbandry by Day--Lippincott, Philadelphia.
- 5- Feeds and Feeding by Henry and Morrison-- Henry Morrison Co.,
Madison, Wisconsin.
- 6- Diseases of Farm Animals by Mayo, MacMillan, New York.
- 7- Farm Animals by Hunt and Burkett-- Orange Judd Co., New York.
- 8- Va. Extension Bulletin 83- "Livestock Judging".
- 9- Farmers Bulletin 411-- "Feeding Hogs in the South";
- 10- Farmers Bulletin 951- "Hog Pasture for Southern States".
- 11- Maryland Experiment Station Bulletin 150-"Types of Hog Houses"
- 12- Va. Department of Agriculture and Immigration 10-"Profitable Hog
Raising in Virginia".
- 13- Farmers Bulletin 205- "Pig Management".
- 14- Farmers Bulletin 1186- "Pork on the Farm Killing, Curing and Canning".
- 15- Farmers Bulletin 183- "Meat on the Farm--Butchering, curing, Keeping".
- 16- Va. Extension Bulletin 81- "Cooperative Marketing".
- 17- Market Reports U.S.D.A. " Crops and Markets"-- Weekly publication.
- 18- Yearbook U.S.D.A. "Yearbook of the Department of Agriculture".
- 19- Farmers Bulletin 874- "Swine Management".
- 20- Iowa Bulletin 53- "Hog Pastures".
- 21- Missouri Bulletin 144- "Self Feeders for Hogs".
- 22- Va. Extension Bulletin-45- "Twenty Lessons on Pork Production".
- 23- Farmers Bulletin 438- "Hog Houses".
- 24- Farmers Bulletin 834- Hog Cholera".

PROBLEM	Considerations	Recommendations
1- Judging Swine	:1-Kinds of Judging:	Have pupils score one or two ind-
References:	: a-Individual scoring.	: individual hogs so as to become famil-
Harper's Animal Husbandry-	: b- Comparative.	: iar with score card and important
pp.275-282.	: c-Selection of best type of animals.	: points of hogs.
Va. Bulletin 45	:2-Difference in	: In comparative judging try to get
Judging Farm Animals--by Plumb.	: judging lard and	: classes of hogs of the same age and
pp 486-507	: bacon types.	: sex. It is not advisable to mix
Va. Extension Bulletin 83	:3- Skill developed by practice	: breeds but this may be necessary in
		: fattening classes.
		: Visit as many different farms in
		: the community where hog raising is
		: an important item and make use of
		: animals found there. The Pupil's
		: home farm is the most desirable
		: place to teach judging, if animals
		: are available.
		: Show how conformation is related
		: to breeding and also to production
		: of bacon and pork.
		: Emphasize the importance of breed
		: ing stock with strong characteris-
		: tics.
		: Take up only one or two impor-
		: tant factors on each day of judging.

Problem	Considerations	Recommendations
Types and Breeds:	I- Lard Type	Take up briefly a study of
References:	A. Poland-Chine.	the hog comparing the wild hog
Types and Breeds:	1. Characteristics.	with the present domesticated
Farm Animals.-	2. Faults.	forms. Study each breed as to
Plumb	3. Points of merit.	it's good and bad features.
pp.467-553	B. Berkshire.	Summarize work by comparing
Productive Swine	1. Characteristics.	the breeds of each type. Show
Husbandry-	2. Faults.	effect of feeding and environ-
Day.	3. Points of merit.	ment on change in type. Empha-
pp. 45-102.	C	size the points which deter-
	C. Duroc-Jersey.	mine the popularity of one
	1. Characteristics.	breed over another. Show why
	2. Faults.	certain breeds are adapted to
	3. Points of merit.	local conditions.
	D. Chester White.	
	1. Characteristics.	In the final summary of the
	2. Faults.	study there will naturally be
	3. Points of merit.	a preference for one breed and
	E. Hampshire.	the pupils should be encourage
	1. Characteristics.	to adopt this as their commu-
	2. faults.	nity breed if practicable. Ad-
	3. Points of merit.	vertising value of everyone in
	II. Bacon Type .	the same community growing the
	A. Tamworth.	same breed should be impress-
	1. Characteristics.	ed upon the pupils.
	2. Faults.	
	3. Points of merit.	
	B. Large Yerkshire.	
	1. Characteristics.	
	2. Faults.	
	3. Points of merit.	

PROBLEM	Considerations	Recommendations
3. Feeding. References:	:I. Kind of hog to be : fed.	: Take up the study of feeds :
Feeds and Feeding Henry and Morrison:	:II. Purpose for which : fed.	:most suitable for hogs, laying : stress on those grown locally.
Va. Extension	:III Available feeds.	:Show the importance of using
Bulletin 45	: A. Bulkiness.	:home grown feeds.
Farmers Bulletin 411	: B. Cost.	: Bring out the idea of feed-
Farmers Bulletin 951	: C. Keeping qualities.	: ing different feeds to hogs
Iowa Bulletin 53	: D. Concentrates.	:according to the class or pur-
Missouri	: 1. Rations of various : kinds.	:pose for which he is bring used.
Bulletin 144	: E. Pastures.	: Emphasize should be placed
	: 1. Kinds.	:upon the futility of trying to
	: 2. Preparations.	:grow hogs without pasture. Plan
	: 3. Management.	:a system of pastures that will
	:Iv. Effect of feeds on : hogs.	:provide forage for hogs during
		:the Spring and summer months.
		:Show the manner in which the
		:lots should be located and size
		: necessary for herds of different
		:sizes. Let each boy do this for
		:his home herd.

Problem	Considerations	Recommendations
Care and housing References:	1. Local conditions. 2. Kind of housing.	From your survey of local condition determine amount of housing necessary.
Productive Swine	3. General Care.	
Husbandry- Day pp. 205-326	4. Convenience to dwell- ing and barn.	Hog houses in general should be studied with special empha-
Maryland Agricultu- ral Experiment Sta- tion Bulletin 150	5. Sanitation. 6. Interior arrange- ment.	sis on those types which are adaptable to your Community. Let each boy draw plans of
Va. Extension Bulletin 45.	7. Cost of construction.	houses suitable for his con- ditions.
Farmers Bulletin 438		Take up only the general care of hogs in this as concerns sanitation and need for pro- tection from weather for economical feeding results. Use data showing the gains made by hogs under different housing conditions.
		Also impress pupils with necessity of sanitation if freedom from infection by parasites and contagious diseases is to be obtained.

PROBLEM	Considerations	Recommendations
5-Care of sow and Litter References: Bulletin 10 of Va. Department of Agriculture and Immigration. Farmers Bulletin 20 Feeds and Feeding by Henry and Morrison. pp. 628	1. Care before farrowing. 2. Care after farrowing. 3. Feeding for proper conditions before and after farrowing. 4. Safety of pigs. 5. Temperature. 6. Digestive System of young pigs.	Show by careful study how improper conditions may have a marked influence on unborn litters. Feeding of sow for proper conditions before and after farrowing is very necessary although this may have been brought up when feeding was discussed. Proper type of house is an essential factor. Often very little housing is necessary and sanitation is the most important topic for consideration. Show a plan for bed for a sow in which there is no danger of the pigs being overlain. A field trip can be very profitably arranged at this juncture and should if possible include a visit to a breeder who has been successful in this phase of hog production. In the case of an evening class some splendid ideas can be gotten from the adult farmers present.

Problem	Considerations	Recommendations
6- Care of Breeding Stock.	1. Selection of breeding stock.	Study the type to be selected for breeding purposes, and emphasize the importance of their proper development if they are to function as they should.
References: Farmers Bulletin 203	2. Feeds and necessary enviromental conditions.	size the importance of their proper development if they are to function as they should.
Harper's Animal Husbandry Chapter 19	3. Time for breeding. 4. Condition.	<p>Special attention should be given to animals with strong pasterns and a slightly arched backs as well as plenty of constitution. A field trip should be taken by all means to point out these characteristics.</p> <p>It is very important to know proper feeds and care.</p> <p>Study material showing results obtained by breeding hogs both at proper and improper ages.</p> <p>The reasons for separation from fattening stock is to be taken into consideration and the tendency of fattening rations to cause sterility should be brought out.</p>

PROBLEM	Considerations	Recommendations
Care of Fattening Stock.	1. Time of selection and separation from breeding stock.	Find out general practice on boys' home farms and make recommendations in regard to this.
References:		
Feeds and feeding	2. How feeding should differ.	Study the rations most suitable showing the difference in rations for breeding and fattening stock.
By		
Henry and Morrison	3. Age of hogs at time they are finished for market.	Have the pupils take the feeds grown on their farms and work out a balanced ration for this group of hogs paying particular attention to the economical phase of the question.
pp. 630-631		
Harper's Animal Husbandry	4. Frequency of feeding.	Time of marketing is a very important factor in the changing of rations.
pp. 280-291	5. Water supply.	Visit the best grower of fat hogs in the Community and determine the best features in his methods.
Farmers Bulletin	6. Proper housing.	Show the importance of a hog being well fattened if he is to dress out well.
205.		Explain necessity of animals being kept warm if economical gains are to be made.

Problem	Considerations	Recommendations
8. Butchering.	:1. Condition of hogs.	Climate is a big factor in
References:	:2. Weather.	:determining the most practicable
Productive Swine	:3. Materials Necessary	:time for butchering.
Husbandry, pp.273	:4. Handling of meat.	: Show importance of fattening
Farmers Bulletin		:before cold weather so as to kill
1186		:as early as meat will keep well.
Farmers Bulletin 183:		: Your local butther is a good
		:man to visit for demonstration
		:purposes. A visit to his slaughter
		:house is better than a class room
		:lecture delivered by him. Observe
		:how he kills, dresses and cuts up
		:meat. As a further supplement to
		:his course observe methods of
		:slaughter at some good farmer's place
		:Show practicability of his methods.
		:See that all pupils are thoroughly
		:familiar with all the cuts of meat.
		: Give reasons for salting and
		:proper time for that.

Problem	Considerations	Recommendations
9-Curing	1. Necessity of keeping	Have boys get from their
References:	meat for home consump-	parents the methods employed for
Productive Swine	tion.	home curing meat.
Husbandary.	2. Preparation for market.	Arrange the steps necessary
pp. 285-291	3. Difference in quality	for the handling of meat from
Farmers Bulletin	between home prepared	the day of butchering until it
183	meats and those purchased	is in a safe keeping condition
Farmers Bulletin	of packing houses.	and properly prepared for
1186	4. Materials needed.	consumption.
		<p>You may find a man in your evening classes who would explain his methods to your class.</p>
		<p>Bulletins from the big packing houses contain quite a bit of information but since it is not so practical for pupils' home conditions the instructor had better get this material and pick out best features.</p>
		<p>If conditions warrant it, a day will be well spent on a study of preparation of meats for market.</p>
		<p>Make use of any possible opportunity for observing any curing being done in the neighborhood.</p>

Problem	Considerations	Recommendations
10-Marketing	1. Marketing on foot.	Make a study of prices of
References:	2. Marketing as pork.	different products of hog and by
Productive Swine	3. Marketing bacon and	means of shrinkage data determine
Husbandry pp.	cured products.	most suitable time for marketing.
3-284	4. Prices at various	The prices of hogs at various
Va.Extension	months of the year.	months in the year is important.
Bulletin 81	5. Economical time of	Use statistics covering a number
Market reports from	marketing.	of years and these will show the
U.S. Dept. of	6. Local market.	months in which the peak of prices
Agriculture.		is usually reached.
Local Market		The facilities on hand for hand-
tations.		ling meats will determine how much
		of the products should be marketed
		in butchered form.
		The first market to be consider-
		ed is the local market. Compare
		the prices on this market with other
		markets after rates are considered.
		Show the desirability for marketing
		locally if conditions will justify
		it.
		Cooperative marketing associa-
		tions should have their merits shown
		in regard to hogs.
		If pupils are required to keep a
		chart during the school year, re-
		cording prices, a vast amount of
		information is gotten.

Problem	Considerations	Recommendations
<p>Diseases and parasites.</p> <p>References: Productive Swine Husbandry. pp 327-349</p> <p>Diseases of Farm Animals- by Mayo Farmers Bulletin 834</p> <p>Farmers Bulletin 837.</p>	<ol style="list-style-type: none"> 1. Common diseases and parasites on hogs 2. Most dangerous troubles. 3. Methods of treating. 4. Preventive measure. 	<p>This study of diseases and parasites should be taken up thoroughly, giving particular attention to those which are common to that locality.</p> <p>Discuss methods of preventing these.</p> <p>Any case of sickness in the neighborhood should be visited by the pupils.</p> <p>Find out when some Farmer has hogs needing treatment for parasites and take the pupils to assist him in treating them.</p> <p>Life history of important parasites is necessary in combatting them.</p> <p>Methods of inoculation should be demonstrated, also best means of giving internal medicines.</p> <p>A brief review of sanitation and its importance is necessary</p>