

SWINE

A STUDY OF THE SEVEN LEADING BREEDS.

(Major Subject)

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By

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approved

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A STUDY OF SEVEN LEADING BREEDS



YOUNG DUROC-JERSEY SOWS AT THE VIRGINIA POLYTECHNIC INSTITUTE.

allowed.

Introduction.

The majority of practical farmers have realized for many years that the economic production of hogs on the farm is one of the chief sources of their income. The hog ranks next to the dairy cow in the amount of human food produced from each pound of digestible matter consumed. There are many farmers who cannot obtain trusty labor for maintaining a dairy herd, therefore hog raising becomes more important to them, and in order that they may produce them as economically as possible, they should be well acquainted with the prolificacy of the different breeds, because large or small litters means large or small incomes (per capital invested) respectively, regardless of the age at which they are sold. To the breeder of purebred swine there are additional points to be considered. He should be familiar with the origin and history, and also the leading families of the breed he proposes to handle.

The following is a general statement or outline which I shall follow in bringing out some points which are of value both to the practical farmer and to the breeder of purebred swine;

1. A study of the productiveness of seven leading breeds of swine. Information to be obtained from a study of at least 1000 pedigrees taken at random.

2. The relative number of pigs raised as compared to those farrowed. Information to be obtained from a study of at least 1000 pedigrees.

3. To determine at least 12 leading families or strains of at least 4 breeds, giving reasons for the choice of families. Information to be obtained from herd books and current literature relating to prize winnings and sales.

4. A detailed study of the origin and history of one breed of swine, giving the leading families or strains for the different periods. Information to be obtained from same sources as No. 3, and other available literature.

Procedure and Results. (1 & 2 outline)

In determining the productiveness of seven leading breeds of swine and also the relative number of pigs raised compared to those farrowed, I took into consideration 1000 pedigrees of each breed. The following are the breeds selected for study: Duroc-Jersey, Berkshire, Chester White, Poland-China, Mule-Foot, Yorkshire and Hampshire. The first five breeds represent the lard type hog, while the last two represent the bacon type hog. The Mule-Foot would not have been considered, (due to the fact that the American Mule-Foot Hog Record Association was not organized until January 1908 and there is only a limited number in the United States at the present time) if available data could have been obtained on the Tamworth breed.

The 1000 pedigrees were taken from herd books of recent date and composed of 500 males and 500 females. From the data obtained, a comparison of the breeds can be made, breeds ranking in order given.

Number of pigs farrowed. Yorkshire, Hampshire, Duroc-Jersey, Chester White, Berkshire, Mule-Foot, Poland-China.

Number of pigs raised. Yorkshire, Hampshire, Chester White, Duroc-Jersey, Mule-Foot, Poland-China.

Percentage raised compared to number farrowed. Chester White, Mule-Foot, Hampshire, Poland-China, Duroc-Jersey, Yorkshire.

From the above results there is evidence to show that the number of pigs farrowed has a decided influence upon the number raised. Notice that there is only one change in the rank of these breeds when they are compared as to number farrowed and

number raised; the Chester White and Duroc-Jersey exchange places.

The following tables will show the above results numerically and also the percentage^{ratio} of males to females.

Table I. (1000 pedigrees of each breed).

Breed	Number farrowed	Number raised	Average litter	Males raised	Females raised
Duroc-Jersey	9,303	7,498	9.3	3563	3935
Berkshire	8,220		8.22		
Chester White	8,575	7,689	8.5	3748	3941
Poland-China	7,608	6,316	7.6	3131	3185
Mule-Foot	8,086	7,224	8.0	3273	3951
Yorkshire	10,300	8,200	10.3		
Hampshire	9,339	7,890	9.3	3771	4119

Table II. (From data in Table I).

Breed	Percent raised compared to number farrowed.	%ratio of males to females raised.	
		Males	Females
Duroc-Jersey	80.6	47.5	52.5
Berkshire	--	--	--
Chester White	89.6	48.7	51.3
Poland-China	83.	49.6	50.4
Mule-Foot	89.3	45.3	54.7
Yorkshire	79.6		
Hampshire	84.4	47.8	52.2

Note:

Berkshire and Yorkshire data obtained from the associations and no ratio of males to females could be given, nor the percentage raised compared to those farrowed in case of the Berkshire.

From Table II you will note that there are from 1 to 10% more females raised than males, or an average of 5% more females, - taking five breeds into consideration and covering 5000 pedigrees.

Before taking up 3 and 4 as outlined, it is necessary to make a general statement at this point: Due to the fact that herd books are missing which cannot be replaced, and also the lack of the publication of registration numbers of prize winning hogs by the leading papers and periodicals, it is impossible to trace out by pedigree the leading hogs or blood lines, therefore 3 and 4 of outline are more or less combined and I shall give a brief history of the Berkshire, Chester White and Poland-China in the place of 3, taking up the origin and history; chief characteristics; naming some important breeders and noted hogs; giving prices paid for individuals, and stating when and where organizations were formed for the promotion of these breeds. 4 will be covered by a more detailed discussion of the Duroc-Jersey breed, chiefly along the same points as stated above for the other breeds. Accompanying the Berkshire and Duroc-Jersey histories will be a few pedigrees of prize winners at the International Livestock Show at Chicago in 1913. Note that these pedigrees nearly all trace to some noted boar or family, although they are too few in number to determine the leading animals or family blood lines, as I expected to do when starting this problem.

Berkshire. (English breed).

Origin and History. The home of the Berkshire hog is England and more especially the southern or south central counties of Berkshire and Wilts, deriving the name from the former. Very little is known of the origin of the original Berkshire, but the breed was very different from the breed of today.

(3) Originally. They were of a buff, sandy, or yellowish-brown color, spotted with black or white. They were coarse of bone; head rather large, with heavy, flap ears; broad on the back; deep in the chest; flat sided; long of body; thick and heavy in both shoulders and hams; well let down in the twist; bristles and long curly hair; legs rather short and strong; weight from 400 to 800 pounds; late maturing and produced a good quality of meat. Most men agree that the Berkshire became a fairly well defined breed prior to 1780.

(4) & (5). Early Improvement. The early improvement of the Berkshire was due to the use of Chinese, Siamese, and Neopolitan blood. In 1842 Professor Low wrote: "The Berkshire breed has, like every other, been crossed and recrossed with the Chinese, or Chinese crosses, so as to lessen the size of the animals and render them more suited to the demand which has arisen for small and delicate pork."

(3) Coburn quotes Professor Low as having described his Siamese swine as follows: Variable color, from deep rich plum to dark slate and black; two to three white feet, but no white on legs or other parts of body; the head was short and fine, with a dished face and rather thin jowls; ears short, slender and erect; shoulders and hams round, smooth, and extra large;

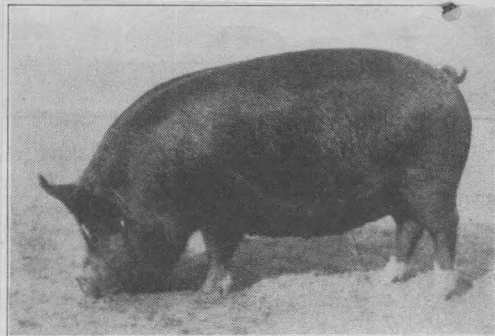
back broad and somewhat arched, except in sows heavy with pig or suckling pigs, but even then it was straight rather than swayed; body of moderate length, deep, well ribbed up, and nearly as round as a barrel; chest deep and broad; twist well let down; legs fine and short; tail very slender and well set, with a handsome curl in it near the rump; hair soft, silky and thin; no bristles even on the boars; skin thin and of a dark hue, yet when scalded, scraped white; flesh firm, sweet, and very tender, with less lean than in the Berkshire. Although so compact, round and smooth in build, they had a fine, high-bred, upheaded style, especially in their walk, which instantly attracted the attention of all who called to see them. They were moderately prolific, and as hardy as any breed of swine I ever kept; the extremes of heat and cold never injured them; they were of good disposition; fattened at any age; matured very early; weighed from 250 to 300 pounds; very fine bone and light offal.

This cross of Siamese boars on the original Berkshire sows was made some years prior to 1780, and one can readily see from the above description of the Siamese hog that the Berkshire received many good points by this cross.

(3) & (4). Early Improvers. Some of the prominent early improvers of the breed were Richard Astley, who is credited by Professor Low as being the great improver of the breed, and Lord Barrington, who died in 1828; Sidney, who was a leading pig authority, in 1860 wrote that nearly all the improved stock of that time traced back to Lord Barrington's herd. But little is known of the methods of these two breeders. Another breeder of note was William Hewer, of Wiltshire, about 1850.

(4) Imported to America. The Berkshire pig was first imported to America in 1823, according to A. B. Allen, who credits John Brentnall, an English farmer who settled in New Jersey, with this importation. In 1832, Sidney Hawes imported Berkshires to New York. Later importations were made in 1839 by Messrs. Begg and Wait to New York; in 1841 A. B. Allen made a large importation and did much to popularize the breed. These importations established the breed in America, and the Berkshires soon found homes in most of our states.

(5) Types. The Berkshires vary in types more than any other breed of swine in America. The importations first made to America were, for the most part, known as the Large English Berkshire, although it is not a distinct breed nor is it necessarily a distinct family or branch of the breed. In England as well as in America today, the Berkshire will be seen to vary in type, and these importers merely picked the large boned animals, and as a matter of fact, many were litter mates of the fine-boned type. Many American breeders have been breeding for an animal which will conform to the lard type more closely than the English Berkshire, and some breeders have carried inbreeding to such an extent in trying to produce an animal of fine bone, smoothness and quality, that they have lost both size and fecundity. In Canada the breeders are sticking more closely to the English or bacon type of hog.



The junior Berkshire sow pig Riverby Princess, owned by D. C. Bunn, grand champion at San Francisco, and sold at auction for \$860.

A GOOD TYPE BERKSHIRE SOW.

Characteristics. The Berkshires of today are black, calling for six white points; face of medium length and gracefully dished; ears carried erect or pointing slightly forward, drooping with age; back quite level, moderate breadth, with considerable length of sides, the ribs fairly well arched and long; rump should be rather long and level, with the tail set high, although there are many strains with short droopy rumps; back does not arch as in some of the other breeds, with squareness at the hind quarters; jowl moderately full; shoulders of medium thickness and breadth; hams rather deep and thick, fairly well turned in twist; legs should be fairly short, although many individuals are too leggy; bone of fair quality, and as a rule, they stand well on their feet; weight from 400 to 500 pounds; fatten well at a fairly early age, and make good meat.

(4) Modern Improvers. Some important modern improvers of the Berkshire are Russell Swanwick, of Cirencester, England; the late Heber Humfrey, Abingdon, England, and N. H. Gentry, Sedalia, Missouri. American breeders of note during the last quarter of the nineteenth century are James Riley and I. N. Barker of Indiana, M. R. Prine of Iowa, A. J. Lovejoy of Illinois, and J. G. Snell of Ontario, Canada.

(1) & (4) Noted Boars. Among the noted boars which have had more or less influence upon the breed in America are Othello 259, Lord Liverpool 221, Charmer's Duke 13360, Handsome Lee 91407, Longfellow 16835, Masterpiece 77000, Lord Premier 5001, Governor Lee 47971, Combination 56028, Lord Premier's Rival 92805, Baron Lee 4th 33446, Model Duke 17397, Columbia's Duke 33855, Superbus 136000, Symbolun 5th 181200, Baron Duke 50th 75000, and Lord Premier's Successor 161500.

Many hold that Longfellow has had more influence upon the breed than any Berkshire boar ever bred in America, although the boar Masterpiece has had a great influence of recent date.

(1) & (4) Families. Important families of note among the Berkshire pigs are Duchess, of which Royal Duchess 900 by Othello 259 is the founder; the Sallie, descended from Sallie I by Duke of Gloucester I; the Charmer, descended from Royal Charmer 9082 by Exor 3891; the Nora, descended from Nora B. 14052 by Liverpool Bob 10417; the Lee, descended from Minnie Lee 14606 by Exor 3891; also Silver Tips, Matchless, Artful Belle, Lady Premier, Black Girl, Royal Empress, Columbia and Longfellow Duchess are important families or blood lines.

Adaptability. The adaptability of the Berkshire to environment is of the first class, a fact which can be proved by the present distribution of the breed:

(5) Berkshires are found in every state and territory of the United States, the most important centers being Illinois, Missouri, Indiana, Texas, Ohio, Kansas, Iowa, New York, Michigan and Tennessee. They are found also in every Canadian province, Ontario taking the lead. They are found all over the British Isles, and have made their way into South America, Hawaii, and some countries on the European Continent.

Prices. The Berkshire pigs have sold at relatively high prices up to the present time. This breed being a typical show animal accounts for the high prices paid for a number of individuals. Prices paid for some important individuals are as follows: Mr. N. H. Gentry paid \$700 for Lord Liverpool 221 in England, and states that he sold about \$7000 worth of his direct

offspring, and also received about \$1500 in cash for his services on sows sent him by breeders from all over the country. Mr. Gentry sold the yearling boar Model Duke 17397 at private sale to Andrew Smith for \$750. In 1898, Columbia's Duke 33855 sold at the Rueben Gentry auction at Springfield, Illinois, for \$1200 to Berry & Juneman of Barclay, Illinois, this being the highest price ever paid for a Berkshire at public auction up to that time. The boar Robin Hood 801 was sold for \$1400 by T. S. Cooper of Pennsylvania to W. C. Norton of Pennsylvania, in the seventies. In 1903 Mr. C. E. Council of Illinois paid Mr. N. H. Gentry \$1500 for the boar Lord Premier 50001 by Baron Lee IV 33446, also the boar Premier Longfellow 68600 was bought of Mr. Gentry by Mr. Council for \$2000 in 1905. In 1905, Mr. A. J. Lovejoy of Illinois sold the great boar Masterpiece 77000 to W. S. Corsa of the same state for \$2500. In 1906 the boar Lord Bacon 87415 was bought by F. W. Morgan of Wisconsin from James Ourolo of Missouri for \$3000, it being of interest to know that this boar was sired by Speculator 80081, a son of Masterpiece. In 1906 the boar Lord Premier's Rival 92805 sold at the auction sale of G. C. Council, Illinois, to I. L. Weirick of the same state for \$3200, also the boar Lord Premier 2nd sold at this sale for \$1600 to Overton Hall Farm of Tennessee, the highest price yet paid for a Berkshire under 12 months of age.

The above includes the highest prices paid for Berkshires in the United States. Many Berkshires have changed hands recently at \$75 to \$400 per head.

(4) Organizations. Organizations for the promotion of the Berkshire pig exist in England and the United States. The American Berkshire Swine Breeders' Association was organized in 1875 at Springfield, Illinois, since which time, to January 1916, there have been 35 herdbooks published. The National Berkshire Record Association was organized in 1893, at Indianapolis, Indiana. This organization published about seven herdbooks, but is now defunct. The British Berkshire Society has published about 30 British Berkshire Herdbooks. This society was organized just ten years later than the American Berkshire Swine Breeders' Association, or 1885.

* noted strain.

Breed Berkshire

Sex Male

Dropped 3/ 6 / 13/

Bred by Hibbard & Baldwin,
Bennington, Mich.

Owned by Hibbard & Baldwin,
Bennington, Mich

* Lee's Artful
Premier 12th.
107644

Hibbard's Choice.
162573

Star Masterpiece.
102000.

Brookline Star's
L Lady.
121714

Charmer Belle 20th.
100863.

Rival's Lee 12th.
180969
Prize

Class.

2nd. -Int., 1913

Under 6 mos.

* Lord Premier 2nd.
92708

Sittyton Premier.
137899

Charmer's Violet 2nd.
112743.

Sittyton Queen 10th.
166464

* Masterpiece
77000

Queen Masterpiece 3d.
131987

* Longfellow's Premier 2nd
102400

Rival's Premier

Queen 2nd.
121997

Queen Rival 4th.
105421

Student's Name

Breed Berkshire.
Sex Male
Dropped 11/2/12.
Bred by Thomas Stanton.
Wheaton, Ill.
Owned by Thomas Stanton,
Wheaton, Ill.

*Masterpiece.
77000.

Scool Master 2nd.
117800.

Royal Empress 90th.
79330.

Sitty Masterpiece,
177000.

Prize, Class
1st. - Int., 1913. 6 mos. & under 12.

* Rival's Lord Premier,
113100

Rival's Black Girl 3rd.
137156

* Queen's Black Girl,
78371.

Student's Name

Breed Berkshire.
Sex Male.
Dropped 6/24/11.
Bred by Hibbard & Baldwin,
Bennington, Mich.
Owned by Hibbard & Baldwin,
Bennington, Mich.

*Handsome Lee.
91407.

Hopeful Lee.
122143.

*Hopeful Duchess.
92966.

Hopeful Lee's Rival.
168100.

Prize.

Class.

2nd. - Int., 1913 2 year and over.

Lee's Artful Premier 12th.
107644.

Lee's Malrose.
122774.

North Ridge Lady 2nd.
103278.

Student's Name _____

Breed Berkshire,
Sex Male,
Dropped 3/2/10.
Bred by J.W.Corsa.
Hutchinson, Ky.
Owned by Elmendorf Farm,
Lexington, Ky.

Loyal Bourbon,
94561

Bourbon Model 2nd.
116219

King's Lady of Bourbon 4th.
90934.

Bourbon Premier C.
135359.

Prize.

Class.

- 1st. - Int., 1913. Boar - 2 yrs. & over.
- 1st. - Int., 1913. Senior Champion-over 12 ms.
- 1st. - Int., 1913. Grand Champion - Any age.

* Premier Duke.
107850

Pride of Bourbon 3rd.
116220

Model Lady of Bourbon 2nd.
114543

Student's Name

Breed Berkshire

Sex Male

Dropped 4/24/'10.

Bred by W.E. Spencer,
Bushnell, Ill.

Owned by W.E. Spencer,
Bushnell, Ill.

* Baron Premier 50th.
114400.

Baron Knight 16th.
123312.

* Duchess 277th.
75007.

Artful Duke 40th.
151979

Prize

Class

4th. - Int. 1913. 2 yr. & over

* Romford Duke 50th.
114499

Artful Belle 93rd.
141186

* Baron Duke 41st.
68611

Artful Belle 74th.
120275

* Artful Belle 63rd.
67690

Student's Name _____

Breed Berkshire.

Sex Male.

Dropped 10/28/11

Bred by R.B. Swift,

Libertyville, Ill.

Owned by Nelle Babyein,

Geneva, Ill.

*Rival's Lord Premier.

113100.

Artful Belle's Rival 6th.

147960

Artful Belle 30th.

64947

King of Riverbank

178304.

Prize.

Class.

1st. Int. 1913

18 & under 24 mos.

* Masterpiece Climax

100001

Climax Lee

120400

Royal Nina 6th.

52530

Lee's Grand Duchess 3rd.

154162

* Grand Duchess 4th.

106662.

Student's Name _____

Breed Berkshire

Sex Male,

Dropped 9/10/'11.

Bred by Elmendorf Farm.

Lexington, Ky.

* Longfellow Premier C

Owned by Elmendorf Farm,

98700.

Lexington, Ky.

Premier Longfellow, Jr.

125463

Artful Queen

92727

Elmendorf Rival
167111.

Prize

Class

2nd. -Int., 1913 18 & under 24 mos.

Rivals Champion

112500

Lord Lee's Duchess.

128033.

* Sunny-side Duchess 4th.

97810

Student's Name

Breed Berkshire,
Sex Male
Dropped 11/28/11
Bred by Brookline Stock Farm Co.,
Aurora, Ill.
Owned by Brookline Stock Farm Co. 77000
Aurora, Ill.

Master Yet.
117900

*Masterpiece

* Premier Duchess 3d.
90754.

Brookline Royal Master,
166182.

Prize Class
4th. - Int- 1913 18 & under 24 mos.

Royal Empress 90 th.
79330

Student's Name

Breed Berkshire
 Sex Male
 Dropped 9/2/11
 Bred by C.A. Steward,
Fox, Ill.
 Owned by C.A. Steward,
Fox, Ill.

* Berryton Duke, Jr.,

77341

College Duke 9th.
 136790

College Martha 5th
 102519

Marmaduke
 163500

Prize

Class

5th. - Int. 1913 18 & under 24 mos.

* Handsome Lee
 91407

Handsome Lee's Model
 122144

Lee's Luster Girl 3rd.

Maramech Master Girl
 153760

Premier Master Girl 440th
 106254

Student's Name

Breed Berkshire
Sex Male.
Dropped 3 / 2 / 12
Bred by Elmendorf Farm.
Lexington, Ky
Owned by Elmendorf Farm,
Lexington, Ky.

*Elmendorf Premier
104536

Handsome Premier 2nd.
167115.

Prize Class
st. - Int. 1913 12 & under 24 mos.

* Longfellow Premier C.
98700

Handsome Rose,
128071

* Durham's Sallie 2nd.
98085

Student's Name

Breed Berkshire,
Sex Male,
Dropped 4 / 17 / 12
Bred by Brookline Stock Farm Co.,
Aurora, Ill.
Owned by Brookline Stock Farm Co. 77000
Aurora, Ill

Master Yet.
117900

* Premier Duchess 3rd.
90754.

Brookline Duchess Master Yet.
172165.

Prize Class.
2nd. - Int. 1913 12 & under 18 mos.

Masterpiece. Duchess 4th.
110290

Student's Name

Chester White. (American breed).

Origin and History. Most authorities recognize three sources of origin for Chester White swine, the history of which may be summarized as follows:

(4) & (5). The original type of Chester White pig first became prominent in Chester County, Pennsylvania. Long ago there existed in both Chester and Delaware Counties a large, coarse, white pig, and it has been assumed that the original stock came over with the early colonists, but it is not clearly known where the original pigs came from. About the year 1818 Captain James Jeffries imported a pair of white pigs from Bedford County, England. The boar of this pair was used on white sows of the district with good results. At a later date, white Chinese pigs were brought into Chester County and crossed on the stock of the district. This Chinese hog was broad backed, deep of carcass, back usually swayed a little, legs short, jowl heavy, short head and lop ears, large in front and tapering behind. The color was white with black, blue and sandy spots in the hair; an excellent feeder and matured at any age. The combination of these different strains of blood gives us a strain of hogs known as the original Chester White breed.

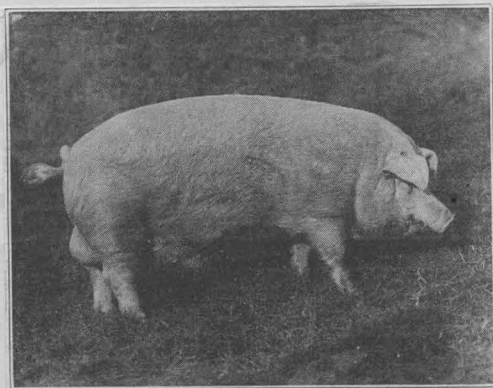
(1) The name Chester County White was applied to these hogs in 1848. It seems as if Bennie Hickman of Chester County and Harvey Atwood of Delaware County were, at this time, breeding these white hogs, which were of the same general type and conformation. Each of these breeders claimed to have the better stock and therefore they had a controversy as to the proper name for the breed. Mr. Hickman called his hogs Chester County Whites,

while Harvey Atwood called his Delaware County Whites. Realizing that they should come to a definite conclusion as to the name of this breed, they accepted the suggestion of Mr. Clements, that the winner of the most prizes at the Baltimore and Richmond fairs should give the name, but as each returned with the same number of prizes, neither had the right to select the name, and they agreed to leave it to the following judges present: Messrs. Thomas Cheney and Aaron Clements, and they adopted the name selected by Bennie Hickman - the Chester County Whites. For many years this name has been abbreviated and they are known the world over as the Chester White Hog.

(4) The Improved Chester White, or Todd's Improved Chester White, can hardly be regarded as a distinct strain of the breed at present. At one time it had a herd record of its own, but in 1894 the articles of incorporation were changed to read American Chester White Record Association. A brief history of the so-called Improved Chester White is as follows: Norfolk Thin Rind pigs were imported from England to Connecticut. Two brothers, named Todd, bought a boar of this breed and a sow of what was called the Grass breed, and took them to Ohio, where they were bred together with considerable success. No doubt this sow was an Irish Grazier. Later, Joseph Haskins brought to Ohio a boar of the Byfield breed and a sow similar to the original Todd sow. The Todd and Haskin pigs were bred together, and Isaac Todd also used other boars in his herd. Among these, one was said to be of the Grass breed, and another called a Normandy boar, though little is known of the breeding of either animal, but they were both white in color. In 1865, Isaac Todd intro-

duced Chester White blood, and his son, E. H. Todd made further use of the Chester White, evolving by careful breeding and selection, what came to be known as Todd's Improved Chester Whites. Besides E. H. Todd, Thomas Wood of Chester County, Pennsylvania, has been an important improver of the breed.

(5) The Ohio Improved Chester White, commonly known as the O. I. C. strain, is the product of the efforts of L. B. Silver of Ohio, who, in 1865, commenced breeding Chester Whites, and who aimed to produce a superior type through selection. This branch of the breed had an association and herd record of its own, but it took more than an ordinary judge to distinguish animals of this strain from other Chester Whites, as they appeared at the various exhibitions.



A GOOD TYPE CHESTER WHITE BOAR.

Characteristics of the present Chester Whites. They are more refined; smaller bone and not as large as the original breed, although in Canada the breed is still large; long of body and very heavy of bone. As its name implies, this breed is pure white in color of hair, although small black or bluish spots oc-

cur on the skin to a more or less extent. Such spots do not disqualify, but are not desirable in fixing breed character. The head has a straight face, the nose often tends to be long and narrow, and the ears are drooped forward, breaking over one-third to one-half the length. Thick heavy ears are not uncommon. Body carries a back line of good width, somewhat arched and the depth is usually excellent; shoulders smooth and strong; hams are good, but do not fill out in lower thigh as much as desired; legs short, but posterns not strong, the toes being spread and bent and the dewclaws too low down. This weakness is due no doubt to the early maturing, rapid-fattening quality of the breed, the weight being too great for the feet to properly sustain. The quality of hair is only medium. There is a tendency of the Chester White, as well as other white breeds, to sun scald and scurfiness of skin, especially in the West, when exposed to a hot sun and dry weather. As feeders they rank well, maturing at an early age and producing a good quality of pork; weight 450 to 600 pounds, or somewhat larger than the other lard type breeds; rank high in fecundity and are good mothers.

Distribution. The Chester White is widespread, the breed being common in the eastern United States and in Ohio, Indiana, Michigan, Illinois, Iowa and many parts of Canada. They have also been distributed some in the south, where they are well adapted to the environment, notably in Virginias, South Carolina and Mississippi. During the past fifteen years the breed has grown much in favor, as is evidenced by the large increase in Chester Whites at the fairs.

(1) Noted Boars. The following boars have contributed much to the breed: Wonder 18069; White Eagle Chief 32392; Comet 21385; Champion Bright Eyes 30435; Wenger's Colonel 18593; Colonel Cummins 16951; Wildwood Prince 28531; Sweepstakes 28006; Combination 12313; Norval 30434; Happy Medium 6019; Willian Tell 14919, and Banker 2293.

(3) & (4). Early Improvement. The early improvement of this breed can be credited to the following men, although all these men did not claim to have the same breed of swine: Captain James Jeffries, West Chester, Chester County, Pennsylvania; Bennie Hickman of Chester County, Pennsylvania; Harvey Atwood of Delaware County, Pennsylvania; Isaac Todd, S. H. Todd, and L. B. Silver of Ohio, also Thomas Wood of Chester County, Pennsylvania.

Prices. High prices have not been paid for the Chester Whites as is the case with some of the other breeds. Breeders have depended upon private sales and some very high class animals have sold at from \$50 to \$100 per head. In 1893 Mr. S. H. Todd sold the boar pig Banker 2293, that was first in class at the World's Columbian Exposition at Chicago, for \$150. This, according to Mr. Todd, was the highest price paid for a Chester White up to that time, and I can find no record of a higher price being paid since that date.

Organications. There were several associations for the promotion of Chester White interests, but several have combined under one name recently. Formerly there were five associations

which made some headway, namely: American Chester White Record Association, which was known as Todd's Improved Chester White Swine Record Association from 1885 to 1894 when the articles of incorporation were changed; in 1897 the Ohio Improved Chester White Swine breeders' Association was organized at Columbus, Ohio; the Standard Chester White Record Association was organized at Indianapolis, Indiana, in 1894. The National Chester White Swine Record Association was organized in 1884 at Eminence, Kentucky, but was removed to West Chester, Pennsylvania, a few years later; The National O. I. C. Chester White Record Association of Kansas City, Kansas, was organized about 1911. There is at present a great move on foot to consolidate as many of these associations as possible, and three of these associations have already consolidated, forming The Chester White Swine Record Association, Rochester, Indiana. The American and National Record Associations consolidated on January 15, 1913, which the National O. I. C. Chester White Record Association joined on March 11, 1915.

At present, Chester White pigs of one association can be registered in one of the other associations and it will be a great day for the breed when all these associations consolidate with The Chester White Swine Record Association.

Poland-China. (American breed).

Origin and History. There have been many disputes as to the origin and early history of the Poland-China breed, although the National Convention of Swine Breeders at Indianapolis, November, 1872, adopted the following as being the correct history of the Poland-China breed of swine:

"In the early history of swine breeding in the Miama Valley, in Ohio, it is clear, from the best written authorities available, and from oral testimony, that there were two breeds, which, to a great extent, had been profitably crossed with the common bristled breed of the country. These were the Russian and Byfield breeds. The Bedford breed is also mentioned in connection with the other two. To what extent it was used, cannot now be readily determined.

"In 1816 we have positive proof from an unquestioned source, that the Shakers of Union Village, situated in Warren County, Ohio, and being four miles from Monroe in Butler County, purchased at Philadelphia, one boar and three sows of what was at the time believed to be pure China. They were represented to be either imported or the immediate descendants of imported stock. They were called "Big China Hogs". These were the first China hogs ever brought into southwestern Ohio. Subsequently other China hogs were introduced and extensively used.

"The Shakers and other judicious breeders in Warren and Butler Counties continued to use the breeds at command, and produced, by repeated crosses, a hog of exceedingly fine qualities, for that period, which was generally known as the 'Warren County Hog! These hogs continually increased in good qual-

ities; were bred in both counties, and the very best specimens were carefully and interchangeably used, so as to make the best crosses.

"Such ~~was~~ the progress that had been made in forming the groundwork of a good specimen of a hog. This condition of the breed continued until about the year 1835 or 1836, when Mr. Munson Beach of Warren County, first introduced the Berkshire, which were obtained from C. M. Bement, of the state of New York; other lots of Berkshires continued to flow into the Miama Valley until about 1841.

"The Berkshire blood was liberally introduced into the stock existing not only in southwestern Ohio but in Kentucky also. Crossing with the Berkshires was almost exclusively done until about 1838 or 1839, when Mr. William Neff of Cincinnati, imported some choice specimens of the Irish Grazier. This breed soon grew into high favor, and as a consequence, was liberally used in making crosses with the best specimens of the crosses previously made. This intermingling of blood, this intermingling of breeds, continued for some time. In a few years, however, the use of purebred Berkshires was entirely discontinued, and there were no further importations made of the Irish Grazier. The breeders of swine in the Miama Valley settled down to the conviction that the basis of a good breed of hogs had been established and in the future, judicious and discriminating breeders could use, and if necessary modify, the material furnished so as to meet the highest demands of the public. For more than thirty years no new blood has been introduced into our breed, and no effort made to obtain a new supply of the blood of either breed previously used.

"While this is true, our breeders have not been indifferent to the further improvement of our breed. Stimulated by their success, they have perseveringly aimed to improve what they

have been so successful in forming. The best points or qualities have been preserved, and, where practicable, have been made even more excellent. All defective points or undesirable qualities have been corrected or improved by the care, skill and judgment of our experienced breeders.

"Thus we have a breed thoroughly established, of fixed characteristics, of fine style, and unquestioned good qualities, which can be relied upon for the production of a progeny of like quality and character.

"Characteristics of the Poland-China. The best specimens have good length, short legs, broad, straight backs, deep sides, flanking well down on the leg, very broad, full hams and shoulders, drooping ears, short heads, wide between the eyes, of spotted or drak color; are hardy, vigorous and prolific, and when fat are perfect models all over, preeminently combining the excellencies of both large and small breeds."

J. M. Millikin,

Chairman of Committee.

Name. At this convention there seems to have been many arguments as to whether a very prominent cross, especially valuable in the breed, was from a "Poland" or "Polish" breed of hogs, and consequently, whether the present breed could with any degree of propriety be called Poland-China at all.

Mr. J. M. Millikin, of Ohio, in his famous controversy with Mr. A. C. Moore on this subject, quotes from documents which may give the clue to the term Poland, in connection with these hogs. He says:

"I have before me a letter from Stephen Millikin,

now of Indiana, who was raised a farmer and has ever continued to be a farmer. He was raised in Butler County, Ohio, and connected intimately with our early Agricultural Societies, previous to 1840. In the winter, for many years, he was superintendent in a heavy pork-packing establishment in Hamilton, and subsequently superintendent for John W. Coleman and others in Cincinnati, in their slaughtering establishments.

"He gives the crosses of the Byfield, the Russia, and big boned China, and says that they were known as the Shaker, Union Village, Warren County, and Butler County hogs. Then the Berkshires were introduced. Full-blooded Berkshire boars to last named sows made better hogs than either. About this time, Mr. Neff of Cincinnati, brought on his Irish Graziers, which were a great improvement when bred to the Byfield, Russia, big-boned China, and Berkshire mixture. He says that Anthony Kever, who lived south of Union Village, had Irish Grazier sows and boars, and crossed them freely with his other stock. He further says that Major Asher Asher, a Poland, who lived near West Chester, had bought stock from the Shakers and from Kever. That Asher sold a boar to Daniel Nelson, on Gregory's Creek, who was also breeding 'Shaker' stock. In the fall of 1839, I was at his place looking at his pigs. After showing me some, he said, 'you must go and see my Poland pigs'. He thought them better than the others, although the mothers were sisters. He called them Poland pigs, because they were sired by the boar he had bought of the old Poland, Asher Asher. - The first time I ever heard of a Poland hog was when I heard Nelson use the term."

After many heated arguments, it was decided that there never existed a well defined breed of hogs known as Poland

mor Polish, -- either in the Old Countries or the United States, but to avoid further friction the convention adopted Poland-China as the correct name for this well defined breed, and that it grew out of the introduction of the China hogs by the Shakers of Union Village, the crossing with the Russia and Byfield, and the subsequent crossing with the Berkshires, and then with the Irish Graziers.

The following is a short description of the different breeds entering into the make-up of the Poland-China hog:

(4) The Byfield pig was white in color and of two general types. One was large, sides long and flat; ears heavy and lopped. The other was small and more refined; shorter; ears small and pointing noseward; jowl large; face dished; chest deep; back broad and covered with thin hair.

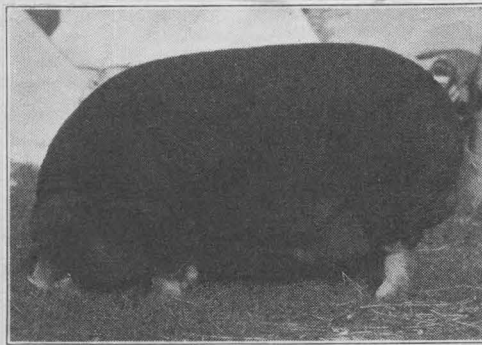
The Russian pig is generally white; hair long and coarse; head long and coarse; ears very narrow and of medium length. These pigs were very large, possessing a superior length and height; ham large but of good quality; stood well on their feet and were of good temperament.

The Big China, which was introduced to Warren County in 1816 from Philadelphia by John Wallace, was white with occasional sandy or small black spots; size medium; ancestry unknown; small head and ears; legs short and fine of bone; feeding qualities good and when crossed upon the Miama Valley pigs, there was a marked improvement in fattening qualities.

The Berkshire pig. --- See characteristics under Berkshire breed. The Berkshire gave greater activity, more quality, and the black color to the Warren County hog.

The Irish Grazier was imported into Warren County

by William Neff of Cincinnati, who imported from Ireland in 1839. This hog varied in size and type; color white; hair very thin and long; ears erect; body long with superior back; legs excellent, and very fine hams. The Warren County pig, or what later became known as the Poland-China was greatly improved by the Irish Grazer cross, and since 1845 no foreign blood has been introduced.



A GOOD TYPE POLAND-CHINA BOAR.

(4) Characteristics. The present day Poland-China pig differs somewhat from the description given or adopted by the convention in 1872. The head is of medium length and breadth; face free of dish and straight; jowl rather full and somewhat seamed; ears fine and should break over one-third the distance from the tip; neck short and thick; shoulders prominent but well covered; back strong with a moderate arch the entire length; loins and ribs thickly covered in well fattened specimens, carrying good width and spring; sides of good depth but only moderate in length, - - tending to be too short; rump is of medium length and frequently too low, - - giving a curved outline from head to tail; hind

quarters characterized by great thickness of flesh, the hams being thick for the entire length from top to bottom, carrying a full, deep twist; legs are short, with extremely fine bone and not the best of pasterns. When fat, the feet tend to give down and spread at the toes. Taking the entire form into consideration, no breed possesses such compactness, and the Poland-China may be classed as the extreme lard type. They are of medium size, ranging from 400 to 500 pounds when mature; adaptability to environments is only medium; mature very early, producing only a fair quality of bacon. Poland-China bacon is criticised severely, due to the fact that there is too large a proportion of fat to lean meat. Cross-bred with the Berkshire usually produces a much more desirable hog for the market. In fecundity and prolificacy this breed ranks very low, which is probably due to the fleshiness of the breed.

(4) & (5). Distribution. More hogs of this breed will probably be found in the Mississippi Valley States than all the remainder of the world. They have met with but little favor in Canada and the European countries, where they have been introduced.

(3) & (4) Important breeders and improvers. The early improvement of this breed took place in the Miami Valley, Ohio. The two most important improvers during the formation of this breed were the Shakers of Union Village, Warren County, and John Harkrader of Springboro, Warren County. Most prominent improvers of the breed fifty years ago were D. M. Magie of Oxford, Butler County, Ohio; James Duffield and Alexander Young of Somerville, and John Irvin of Darrrtown, all of Butler County, Ohio; and A. C. Moore of Canton, Ohio. Magie and Moore advertised quite

extensively and did much to bring the breed before the public. Improvers to follow these men were L. M. Bonham, Oxford; James Hankinson, Carlisle Station; J. M. Klever, Bloomingburg; W. C. Hankinson, Blue Ball; J. Douthett, Xenia; and Noah Coler & Sons, Liberty. All these men were Ohio breeders.

(1) & (4). Noted boars. Especially prominent for their influence upon the breed are Perfection 447, Tom Carwin 2nd 2037, Tecumseh 4339, Chief Perfection 2nd 42559A, 45395, Chief Perfection 39931, Black U. S. 29505, Old Sweepstakes 253, Perfect Perfection 80971, Thickset 71221, Perfection I Know 77521, Perfection E. L. 71635, and High Roller 84255. There are two of these boars which might be pointed out as standing above the others: Tom Carwin 2nd 2037 deserves the credit of fixing the color of the breed, and Chief Perfection 2nd 42559A-45395 is considered by many as the greatest sire of the breed.

(1) & (4). Noted Sows. These sows are merely the foundation stock of families or blood lines which many of the noted animals of the breed trace to, directly. Beauty 2558, dam of Tecumseh 4339, and foundress of the Tecumseh family; Lady Duffield 3776, dam of Tom Carwin 2nd 2037 and foundress of the Carwin family; Bess Stribbens 1168, foundress of the U. S. family; Bessie Wilkes 80820, dam of Chief Perfection 32199, and foundress of the Perfection family; F's Black Bess, foundress of the noted Black Bess family; The Old Harkrader Sow 950; and Galena 99316, a famous show and brood sow. Much of the best Poland-China blood traces back to the Old Harkrader Sow 950.

(1), (4) & (6). Prices. Prices paid for noted animals of this breed surpass those of any other breed of swine.

In 1903 the boar Chief Perfection 2nd was sold by shares, eight shares selling for \$13850, eight different men bidding in these shares at prices ranging from \$1500 to \$2000 each. This boar was formerly owned by two men who retained a one-quarter interest each, so it would seem as if this animal (16 shares) would have sold for about \$27,700, which is an enormous and absurd price. Among sales of regular form the boar King Medium sold at auction for \$1025, in 1896, this being the highest auction sale price to that date. Happy Union 34511 at the Howard & McAllister sale in Iowa in 1897, sold for \$4000 to the Happy Union Stock Company. The same year, the boar, Look Me Over 19417, sold for \$3600 at the Hart and Minnis sale at Edinburg, Illinois, to the Look Me Over Breeding Association at Stanberry, Missouri. The aged boar Lookout 28901, at the Johnston sale in Iowa, sold for \$1600. More recent sales include: Meddler 99999, sold in 1905 for \$3000 to Edward Ware. The sows, Minnie's Model 102806 sold at \$1310, Hadley's Half Sister 87840 sold at \$650, and Moorish Maid 81824 sold at \$600. During the winters of 1896-97 such a boom in Poland-China prices occurred as to cause a protest from the wiser breeders of the country. Some individuals were purchased at auction sales at high figures that were unwarranted a place in a creditable breeding herd. Some recent herd sales at public auction have brought fair prices. I. B. Morgan, Galveston, Indiana, sold 80 head at an average price of \$105, in October 1914. W. C. Disher of New Weston, Ohio, sold 50 head at an average price of \$107, November 4, 1915. The last named herd sales were of the large type pig.

Organizations. There are many associations for the improvement of this breed, and some are strong and influential. The Ohio Poland-China Record Association was organized at Dayton in 1878, although the first herd book of this association was published in 1877 by Carl Friege and M. J. Lawrence. There has been published a complete set of this record association, containing more than twenty-five volumes. The American Poland-China Record Company was organized in 1878 at Cedar Rapids, Iowa, publishing the first volume of their herd book in 1879, since which time it has published more than forty-five volumes. The Central Poland-China Association was organized in 1880 at Indianapolis, Indiana. The Northwestern Poland-China Swine Association was organized in 1881 at Washington, Kansas. The Standard Poland-China Record Association was organized in 1887 at Marysville, Missouri, publishing twenty-eight volumes of its swine records since that time. The Southwestern Poland-China Record Association was organized at Ripley, Tennessee, in 1896. This association has registered very few hogs and only two or three herd books have been published. The leading associations were the American, Standard, Central and Ohio, but in recent years the Central and Ohio Associations have consolidated, under the name of the National Poland-China Record Company, Winchester, Indiana, and **about** ten volumes of its records have been published up to this time.

Duroc-Jersey. (American breed).

Origin and History. - The origin of the Duroc-Jersey is not definitely known, but we do know that the present day Duroc-Jersey is an American breed with its forefathers coming from many countries of the world. In Africa, Portugal, Spain and England red hogs were found at a very early date, and as early as 1820 red hogs were bred in America.

(3 & 4) The Guinea breed of pigs was imported into the United States from Western Africa, more than a century ago, - possibly earlier than 1804. Youatt states that these pigs were large in size, square in form, of a reddish color, the body covered with short, bristly hair, and smoother and more shiny than almost any other breed of the porcine race. New York and New Jersey were probably the first states where these hogs were bred to any extent, but they drifted westward as far as Iowa in 1849.

(3) & (4) The Portugese breed of pigs was imported from Portugal by Daniel Webster, about 1852. They arrived at New York about the time of Webster's death and his heirs disposed of them to S. W. Jewett of Vermont, and A. E. Beach of New York. They were dark red in color, and resembled the Chinese pig in form. Red pigs from this importation spread over several Eastern and Southern states.

(3) & (4) Spanish red pigs were imported by Henry Clay in 1837. There were four pigs in this importation, and they were taken to his farm (Ashland) at Lexington, Kentucky, where they bred and successfully increased. This stock met with great favor

and was distributed through many of the Southern states, notably Kentucky, Tennessee and Virginia. These hogs were red in color with erect ears.

(3) From England there were early importations of Berkshire, which breed was generally of a buff sandy or reddish brown color, spotted with black, occasionally tawny or white spotted in the same manner. They were coarse in the bone; head rather large with heavy flap ears; broad on the back; deep in the chest; flat sided, and long in the body; thick and heavy in both shoulders and hams; well let down in the twist; bristles and long curly hair; and rather short strong legs. They produced a well marbled meat, compared with other British breeds, but they were slow feeders and did not ordinarily mature until two and one half to three years old. The above description dates about 1800.

(3) The Jersey Red breed of pigs was for many years a favorite one in New Jersey and the East. In reporting on this breed at the National Swine Breeders' Convention in 1872, Col. F. D. Curtis stated that they had been known in New Jersey as early as 1832, and in some neighborhoods they were being bred very uniform. The color usually was a dark red, although in some sections they were light sandy and often patched with white. This breed was first named Jersey Reds by Joseph B. Lyman, then editor of the New York Tribune, about 1870. Previous to this period they had been commonly called Red hogs and Durocs.

The following is the characteristics of the Jersey Red as agreed upon by the National Swine Breeders' Convention in 1872. - A good specimen of the Jersey Red should be red in color;

snout of moderate length; ears large and lopped; head small in proportion to size and length of body; body long and standing high and rangy on their legs; bone coarse; hairy tail and brush, and hair coarse, inclining to bristles on the back. They are valuable on account of their size, strong constitution and capacity for growth. They are not subjected to mange. In recent years, this breed as described has become insignificant and has relapsed into obscurity.

(3) & (4) The Duroc breed of red pigs is said to have been established by Isaac Frink of Saratoga County, New York, in 1823. He obtained a red boar pig from a litter of ten, the product of a pair of red pigs purchased, in 1822, by Harry Kelsey of Florida, New York; from persons either at Oyster Bay, ~~Queens~~ Queens County, New York, or imported from England. Concerning which point there is doubt. Mr. Kelsey owned the famous stallion Duroc, and the pigs in question were known simply as red pigs. Mr. Frink called his red boar and descendants Durocs, in honor of the horse. This boar was crossed on common sows, and many of the offspring resembled him in color and form; being long and deep of body, lap eared, heavy of shoulder and ham, quiet of disposition, and making rapid growth. In 1830 Willian Ensign of Saratoga County, New York, secured a pair of red pigs from Connecticut, where they were known as red Berkshires, getting more the next year, and breeding and distributing them considerably. Later the Frink and Ensign families, which were of the same general types, became very popular.

(3) Early in 1883 a number of breeders of so-called "red hogs" met at Elk Horn, Wisconsin, and formed an organization to be known as the Duroc or Jersey Red Swine Club, with a view to advance the improvement of the breed, and establishing a registry of pedigrees. The standard agreed upon by the club is as follows:

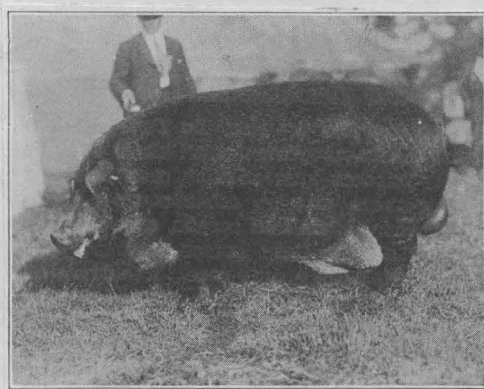
(3) "The true Duroc or Jersey Red should be long and quite deep bodied, not round but broad on the back, holding the width well out to the hips and hams. The head should be small compared with the body, with the neck broad and full, and considerable breadth between the eyes. The face slightly curved, with the nose rather longer than in the English breeds; ears rather large and lapped over the eyes and not erect. Bone not fine, nor yet coarse, but medium; legs medium in size and length, set well under the body, wider apart and not cut up high in the flank or about the knees; hams should be broad and full well down to the hocks. There should be a good coat of hair of medium fineness, inclining to bristles on the top of the shoulders; tail being hairy and medium to large in size. The color should be red, varying from dark, glossy, cherry red and even brownish hair, to light yellowish red, with occasionally a small fleck of black on the belly and legs. The darker shade of red being preferred by most breeders, so ~~this~~ type of color is the most desirable. In disposition they are remarkably mild and gentle. When full grown they should dress from 400 to 500 pounds, and pigs nine months old should dress from 250 to 300 pounds."

The origin of the Duroc-Jersey pig is the result of the amalgamation of the blood of these red breeds or families previously described. The Durocs of New York, the Red Berkshires of Connecticut, and the Red Rocks of Vermont, as they were called, were of the same general type.

(3) Some system in breeding was attempted in 1877, when the breeders of Washington and Saratoga Counties met and decided what the characteristics of the best type of the red pig should be. The standard which was published in the agricultural press, was the first thing of the kind printed regarding the red pigs, and was essentially the one adopted by the National Swine Breeders' Convention in 1872. In 1885 Col. Curtis wrote that the breeders of the so-called Red Rocks and Red Berkshires cordially united with the New York men, and the Duroc-Jersey standard was universally accepted by the best breeders of all the red hogs of America.

(3) This union of the breeders' interests started the improvement of the Duroc-Jersey. It resulted in a pig of somewhat less scale than the Jersey-Red, lacking in coarseness, having a better quality of flesh, feeding easier, and maturing more readily at a younger age. A breed of medium scale was regarded as more valuable than some of the large, coarse red pigs which existed. The standard of the Duroc-Jersey of forty years ago resembled the old type Berkshire. Since then the Berkshire has become more re-

finer, and the Duroc-Jersey has kept place with Berkshire evolution.



A GOOD TYPE DUROC-JERSEY BOAR.

(4) & (1). Characteristics of the present day Duroc-Jersey pig. The color of the Duroc-Jersey is red, varying from dark to a light reddish or sandy color. Cherry red is the most popular color. Young pigs are usually a bright red, and with age the tint changes. A very dark red or shady brown, very pale red, and black spots on the body skin, are objected to by breeders. Black spots on the belly and legs are admissible, but are not desirable. The head is regarded as small in proportion to the size; face is either straight or very slightly dished; nose is of medium length and showing considerable refinement; ears are of medium size, drooping forward and the tops, a third more or less, breaking over; back

carries considerable width in proportion to length, showing a wide spring of rib with a slight tendency to arch, though not so great a degree as with the Poland-China. The body possesses unusual depth; shoulders and hams are rather thick fleshed, the latter extending down low in the twist; legs in the modern Duroc-Jersey are short and the bone good, although there is a tendency to too much refinement; pasterns are often weak, notwithstanding the inheritance of strong legs from the old Jersey Red. Taking the body as a whole, back of the ears, it resembles the Poland-China more than the Berkshire.

(4) Size. The size of the Duroc-Jersey is somewhat variable, due no doubt to the commingling of the blood of the large Jersey Red and the smaller, more refined red breeds. For animals in show condition, The American Duroc-Jersey Swine Breeders' Association gives the following weights in its published standard: Boars two years old and over should weigh 600 pounds; sows of same age, 500 pounds; boars 12 months, 350 pounds; sows, 300 pounds; boars and sows six months of age, 150 pounds. Mr. S. E. Morton, owner of the noted boar, Ohio Chief 8727, states that he could easily be made to weigh over 1000 pounds. Due to the general market demand, the breed averages somewhat smaller than it did thirty to forty years ago.

The Duroc-Jersey as a feeder ranks well with the Poland-China, Berkshire and Chester White. At the Iowa Experiment Station, the cost for 100 pounds of gain with the Duroc-Jersey was \$2.27, compared with \$2.33 for the Berkshire and \$2.46 for

the Chester White. In several years of testing at the Ontario Agricultural College the Duroc-Jersey more than holds its own with the Poland-China.

As grazers, the Duroc-Jersey seems to thrive on both blue grass and clovers.

The maturing qualities of the Duroc-Jersey are of a high class. They can be prepared for the market at a very young age. At the Iowa Agricultural Experiment Station nineteen pigs at an average age of 214 days weighed an average of 197 pounds each, which is a very good weight for an average of nineteen pigs.

The quality of Duroc-Jersey meat is good, compared with the Poland-China and Chester White, when fed a similar food. The Duroc-Jersey pigs are not discriminated against in the market, although the class of pork produced by them in the corn belt is not the equal of that resulting from a more varied ration. For many years the Red hogs of Saratoga County, New York, commanded a premium in the Albany market, then a great pork packing center. This was due to the superior meat produced by a varied ration of potatoes, oats, and peas and clover pasture. In percent dressed meat, they rank about medium compared with other breeds of the lard type.

The breeding characteristics of the Duroc-Jersey are considered distinctly superior. Thirty years ago Col. Curtis wrote that young sows had from seven to ten pigs and old sows from ten to eighteen, while twelve and fourteen strong pigs at one litter were not at all uncommon. Rommel, in a report on Duroc-Jersey

fecundity, published in 1906, based on herd book figures, shows that 21,652 litters, comprising 200,574 pigs, average 9.26 pigs per litter. This is an excellent record and checks very closely with the average litter (9.3) which I obtained when only 1000 litters were considered.

The cross-bred or grade Duroc-Jersey pigs feed well, and when crossed with the Poland-China there is a marked increase in the fecundity of the cross-bred animals over the purebred Poland-China. There seems to be an idea among breeders that the Berkshire male on Duroc-Jersey females will produce animals of a better quality of meat than if the cross had been vice versa, although either cross will give good results.

Prominent Breeders and Improvers of the Duroc-Jersey pig. - During the early stage of the improvement and development of this breed, we find F. D. Curtis of New York, and William H. Holmes of the same state, were the leading breeders and each did much to improve and popularize the breed. Following the year 1880, S. E. Morton of Ohio, G. W. Stoner, J. M. Stonebaker, and Thomas Bennett of Illinois, William Roberts of Iowa, and C. H. Searle of Nebraska did much for the breed. Among the present day Duroc-Jersey breeders of note are McKee Bros., Versailles, Kentucky; Ira Jackson, Tippecanoe City, Ohio; William H. Robbins, Springfield, Ohio, and Henry W. Motern, Lostant, Illinois.

(1) & (4) Duroc-Jersey hogs of note. - Among the prominent show and breeding boars between 1880 and 1885 were Major 17, Climax 21, Phil D. 167, Richard III 181, John Jordan 297, and King Stoner 1651. The following sows of the same period are worthy of mention: Holmes' Ruby 70, Lula 76, Bess III 82, Mona II 90,

Mojeska 96, Bessie 100, Valleria 200, Lou Edna 226, and Red Stumpy 926. In more recent year Hoosier King 3205, Col. M. 3285, Storm King 3377, Walt's Col. 5795, Ohio Chief 8727, Top Notcher 8803, Cherry King, Defender, King the Col., Orion Chief, Proud Advance and Illustrator, have attained distinction as sires and show boars.

(1) Leading Families. - The families best known in the improvement of the Duroc-Jersey breed are the Protections, Colonels, Top Notchers, Crimson wonders, Golden Rules, Proud Advances, Orions and Golden Models. Naturally the foundation stock of some of the above families trace to the same sources, either in the sire or dam side and in some cases from both, as these families were established in the few herds which in the early days were doing constructive work for the breed.

The Protection Family. - This family originated in the East, and its best boars have ^{been} used in all parts of the hog belt. Among the best known of these are Ohio Chief, Chief of Ohio, Red Chief I Am, Ohio Chief II, Model Chief, Cherry Chief, Cherry King, The Professor and Chief Protection. Red Chief I am was the first Protection boar used in the west, and from him descended the Belle Chiefs and Savannah Belles, through Nebraska Belle, the first sow of the breed to sell for a long price, \$600. Jumbo Red was another Protection bred boar which went west in the early years. His get topped the Omaha market many times. Ohio Chief was a consistent winner in the hands of his breeder, S. E. Morton of Ohio for three years and sold for \$2,000 to Messrs. Harding & Osborn

of Iowa, who afterwards sold a third interest to Mr. Morrison of Nebraska for \$2,000. His progeny, through many generations continues to improve the breed, and demands good prices. Model Chief, a son of Ohio Chief played an important part in the breed, both east and west. His purchase for the Reed herd in Iowa laid the foundation for the Model Chiefs of the west, and by this breeders intelligent coupling of Model Chief with Advancer and Proud Advance sows brought a distinct improvement to the breed. The Cherry Chief, Cherry King and The Professor lines have been the most popular lines from Ohio Chief in the last five years. The old Protection type would not measure up to the size demanded in some herds today, but coupled with the Colonels and other lines of breeding it has played its part in improving and maintaining the excellent qualities of the breed.

Protection was sired by Coulongues and he in turn by Troubadour and his dam was Tip Ear, a Thos. Bennett bred sow. Ohio Chief and Chief of Ohio, mentioned above were out of Duchess 40th, a sow carrying a combination of Colonel and Coulongues blood and her breeding traces twice to a line of sows whose foundation came from close breeding - incestuous breeding or inbreeding, it would be called today. Daughters of Old British wonder 917, a prize winner in the hands of his owner, Mr. J. M. Browning of Illinois, were mated to their own half brother. These "Wernal" sows, or sows of youth, as they were named, were bought by Mr. Morton, who bred their progeny in turn to Granville from the Ingram herd and King Stoner from the G. W. Stoner herd, and to Coulongues, perfecting the family, the great Duchess line of sows, of which Duchess

40th is probably the most noted. She was mated to Protection and produced Ohio Chief and Chief of Ohio; she was mated to Orion II and produced old Top Notcher, head of the Top Notcher family; she was mated to Morton's King and produced Winchester Chief, a boar that made improvement in Indiana Durocs. Duchess 40th is also a grand-daughter of Col. M. head of the Colonel family. The prepotency in the blood of Duchess 40th certainly comes through the intensity of the line breeding which produced her. She traces three times to Troubadour in four generations and twice to the foundation family of sows, the Vernals, mentioned above.

The Colonel Family. - The Colonel family, the most noted and from whose lines comes the very numerous list of herd boars used in all parts of the hog belt for the past ten years, has its foundation in Col. M. 3285, 1st prize winner in the World's Columbian Exposition in 1893. The most noted boar of this family is King of Cols. He was a line-bred boar, with sire and dam running to Col. M. in the same number of generations - five. King of Cols. reputation was builded alone on his ability to produce. He was shown at some small fairs in Indiana as a pig along with his litter mates, (among these being Muncie Chief), but always landed as a bad third or fourth in the show, and when sold in the sale of Carl Scott, his breeder and owner, was passed up by a number of good breeders, but Mr. Morton, with the farseeing eye of the talented constructive breeder bought him and later refused an offer of \$10,000 for him. In King of Cols. we have a concentrated Protection-Colonel bred boar, as he traces to Protection and Col. M. on the top line

and on the bottom. This explains in part the excellent results that have been attained in the past ten years in the crossing of King of Colonels get with Protection get. As stated above the Colonel family is the most widely used family and a list of the noted boars of this blood that have helped build the breed would fill many pages the size of these. Among the most noted sons of King of Cols. that came west from the Morton herd are Chief's Col. 22875, King the Col. 89533n, King of Cols. II 19921, and Defender 25893.

Proud Advance 23549n. No boar of the breed has ever sired as many good daughters as did Proud Advance and it is doubtful if the breed will ever know his equal as a sow sire. Proud Advance's pedigree shows a strong infusion of Protection blood, through his dam, Lucy D. II 18106. She was sired by a grandson of Protection and out of a granddaughter of Ohio Chief (not the Ohio Chief mentioned above but another Ohio Chief bred by Morton that was better than a half brother to Protection). Proud Advance's top line was Orion bred and he produced smoothness and mellowness in his daughters that never has been surpassed in any line of sows in any breed. Failure to perpetuate his own great branch of the Duroc family through his inability to get good producing sons, is the reason for the family, as a family, "running out". The daughters of Proud Advance hold the record in the number sold at high prices, and the amount of money paid for them. These prices outstrip the prices paid for daughters of any sire in any breed of swine, and few if any of them lost the buyers' money. The highest price paid, and it is the highest price paid for any sow of the

breed, was for Proud Zeda, and she sold as a yearling at \$2,600 in the H. E. Browning sale in Illinois.

The Orions. In the Roberts and Clark herds in Iowa the Orion family was founded, the head being Orion 4901a, who came originally from the Clark herd, he being sired by Ben Hur H., a Bennett bred boar, direct descendant of Cookoo, sire of winners in the World's Columbian Exposition in 1893. Orion was winner as a pig in the Iowa Show 1895. Among the sows to which this boar Orion was mated in the pioneer herd of Wm. Roberts was Ohio Anna 10068, a descendant of Troubadour, the sire of Col. M., the great head of the Colonel family. She also carried a double infusion of old British Wonder 917 through her sire, Duke of Star Herd (also a winner at Columbian Exposition), he being a great grandson of Champion Wonder (a half brother to British Wonder) and also through her dam, Duchess of Star Herd back to the Duchess line of sows mentioned in connection with the Protection family. This mating produced Orion II, who went into the Morton herd in Ohio and from Duchess 40th produces Top Notcher 8803, head of the Top Notcher family and sire of Tip Top Notcher, grand champion at St. Louis Worlds Fair Show, and many other winners. In the Jackson herd he was mated to Mabel 22518, and produced Orion Chief, winner of first in class in St. Louis and undoubtedly the best known Orion bred boar. Jackson sold Orion Chief to Mr. Johnson of Ohio at \$3,500. At nine years of age he sold to Messrs. Matern and Mumford at \$600. Orion Chief's get have been as popular as any line of breeding of the breed since 1904. Orion Chief, like Proud Advance, was noted as a producer of great daughters, but only a few notable sons. His daughters have been dams of more noted boars than the daughters of any other sire in the breed's history.

Crimson Wonders. In the western arena of the Duroc's fight for proper recognition, a little later than the advent of old Orion, another great family was being builded. The Crimson Wonders have produced in the western field more noted animals than any other line or family. Old Crimson Wonder 26355n, the admitted head of this family traces directly to Protection on the top line, through Tolstoi, Hugh Tucker and King Jehu. His dam was the noted brood sow, Ohio Anna 8th, a granddaughter of old Ohio Anna 10068, the dam of Orion II. Ohio Anna 8th was by You See, ~~he~~ a son of Zoo V., one of the greatest brood sows of the pioneer herd of Roberts & son and she was a granddaughter of Protection. Crimson Wonder also carried an Orion cross through the sire of his 2nd dam. Crimson Wonder, his son Crimson Wonder I Am, his grandson Crimson wonder Again and the latter's son Crimson Wonder III, were all grand champion boars in some of our greatest western shows, and many of their descendants have held high rank in every western state fair since the founding of the family. The Crimson Wonders brought to the Durocs of the west their smoothness and easy feeding qualities. We earnestly believe that eastern breeders have been losers by their failure to introduce into their Protection and Colonel bred herds, high class boars and sows of this line and avoid much of the closer breeding they have practiced. Western breeders have not been slow to see the value of these combinations and have been for years large buyers of Protection, Colonel and Orion boars. With but few exceptions noted herds of the west are still using these crosses.

The Top Notchers. In the Watt herd in Ohio this family came to be noted, although old Top Notcher 8803 was bred by Morton, being sired by Orion II and out of Duchess 40th, the noted sow mentioned several times before in these pages. This family was at its zenith about the time of the St. Louis World's Fair and we find in that show the grand champion boar, Tip Top Notcher, the junior champion Top Notcher Chief and many others of this line winning coveted prizes. Tip Top Notcher weighed more than 1,000 pounds when shown at St. Louis, and the Top Notchers have left size and strength of bone wherever used in the breed.

The Golden Rules. Coincident with the Crimson wonders in the west the descendants of Golden Rule were winning the highest places in the eastern shows. Golden Rule, for years at the head of the Watt and Foust herd, while standing at the front of what has been later known as the Good E. Nuffis was nothing more or less than the result of an intelligent coupling of Protection and Colonel blood, with a strong infusion of the great sow family, the Duchesses on both sire and dam's side. Golden Rule was by Choice Goods, he by Chief of Ohio by Protection. His dam was by Lord Clinton and he in turn by Col. M., head of the Colonel line. Golden Rule's 2nd dam was by Longfellow 6815, a descendant of the Duchess line of **sows**. Among the best known of this family are Choice Rule, Good E Nuff, Good E Nuff Again, Pride E Nuff, Good E Nuff Again King, Burke's Good E Nuff, the two latter having become noted sires in the western field.

The Golden Models. The most recently developed of all the Duroc families is the Golden Models. This family has been elevated to their present excellent high standing by the Waltemyers of Iowa. Golden Model is the head of this great family and was a Colonel-Protection-bred boar. He was by Golden Hero by Ed's Favorite by Ed's Colonel, the latter being one of the most noted of the early Colonels. The dam of Ed's Favorite was a Protection bred sow. Golden Model's dam was a descendant of old Orion and traces to a noted family of sows called the Lucy Wonders. The best known of the early Golden Model boars are Golden Model II and Model Top. These were sired by Golden Model and out of Miss Wonder, she being a combination of Top Notcher and Crimson Wonder breeding. Mr. Bennethum of Iowa, bought Golden Model 53675n as a pig from Mr. Deal of Illinois, the dam of this pig being Hillies Model, from the herd of Mr. Hilligoss of Indiana, who had mated her to Golden Hero. Mr. Bennethum mated this boar Golden Model to Miss Wonder, producing Golden Model II, Model Top, and their litter mates. This litter shown in their yearling form at Iowa, was possibly as good a litter of yearlings as was ever shown at that great fair up to that time, and was truly a sensational lot. Under the skillful development and feeding of the Waltemyers the Golden Models have been winners of a great majority of the coveted prizes in most of the big fairs of the west for the past four or five years. But recently eastern breeders have been attracted by their prominence and are trying the males for crossing on other blood lines.

Some Sow Families. The families of noted sows have without doubt played as important a part in the breed's enviable standing today as have the families of boars, and we believe that many of the breeders of Durocs have overlooked the necessity of good, well bred, growthy dams in their herds and have depended too much upon the prepotency of the sire to advance improvement. We are wont to say that the sire is more than half of the herd, and we too often take it for granted that he is about all the herd, but if you will look up the blood lines of the great boars mentioned anywhere in these pages, you will find that they come from really great dams, who had as much or more to do with the greatness in individuality and prepotency as their sires.

(1) The Duchess family has been noted previously and was undoubtedly the greatest early family of sows in the breed. Next came the Lucy Wonders, founded in the herd of that very early pioneer breeder, Mr. Keever of Ohio, Lucy Wonder, the admitted head, being grand champion of the World's Fair, Chicago.

(1) Lucy Wonder XXI was the last direct descendant of this sow, and she produced noted animals in the Browning herd in Illinois up to a few years ago. The great herd of Mahan sows in Ohio trace to a little sister of old Lucy Wonder. Another great sow family are the Helen Blazes. These were developed in the Browning herd and Helen Blazes III was the first sow of the breed to change hands at \$1,000, and the produce of old Helen Blazes 65402n has made history in the world's greatest show rings and breeding yards. The Orion Lady A. family, direct from old Orion Chief, have been great producers in the Jackson herd as well as many of the

other noted herds in the east. Crossed on Cherry King, in the Jackson herd, they have produced sufficiently strong to make the Cherry King line of breeding stand without an equal in number of prizes won in the various big fairs in the last four years.

(1) & (6) Prices. Some individuals of the leading families have sold at relatively high prices, as noted in the above descriptions or histories. At the present time, while the prices are not high, they are in demand and large numbers are sold at prices which indicate the popularity of the breed. The following sales should indicate what good Duroc-Jerseys have sold for at public auction in recent years; - Sale of Thomas Johnson and Sons, Columbus, Ohio, March 5th, 1912: Orion Chief, nine years of age, sold at \$500 to Harry Mastern and Prof. W. H. Mumford. Instructor sold for \$605 to J. F. Middleton of Kentucky. Sale of H. E. Browning, Dec. 19, 1912: Forty one head sold at an average price of \$173. The highest price for an individual was \$700. Sale of Wirt A. Catling, Trivoli, Illinois, Feb. 26, 1913: Thirty five head sold at an average price of \$51.50. Sale of McKee Bros., and E. S. Mayes, Springfield, Kentucky, Feb. 28, 1913: Fifty six head sold at an average price of \$102.65, the highest price for an individual being \$301. Sale of McKee Bros., Versailles, Kentucky, Dec. 15, 1913: Fifty one head sold at an average price of \$78, the highest price paid for an individual being \$207.50 for Highland Willetta 1st 98386 - bought by J. Y. Caldwell, Williamsville, Illinois. Sale of McKee Bros., Versailles, Kentucky, June, 1914: Twenty five bred sows sold at an average price of \$227. The sows Orion's Pal and Top Cal. sold to J. J. Mitchell and Dr. C. E. Still, respectively, for \$500 each. Sale of McKee Bros., Versailles, Kentucky, Aug. 12, 1914: Fifty

six head at an average price of \$111. A boar by Defender sold for \$355, this being the highest price paid for an individual. Sale of Prof. W. H. Mumford, Ann Arbor, Michigan, July 28, 1915: Fifty one head sold at an average price of \$50, the highest price for an individual being \$133 for Orion Chief Bell 4th 128136. Sale of John Swenson, Willor, Minnesota, December 1915: Forty eight head at an average price of \$56.50. Sale of Ira Jackson, Tippecanoe City, Ohio, February, 1916: Fifty three head sold at an average price of \$157. Several other sales of the hog belt have averaged between \$60 and \$100 within the past eighteen months.

Distribution. The distribution of the Duroc-Jersey is very widespread throughout the United States and certain portions of Canada. It has long been a popular breed in New York, New Jersey and Virginia. In recent years it has grown much in favor in the Mississippi Valley, and many southern states. Each year there has been increase of interest shown in the auction sales of the purebreds and in the exhibits made at fairs. Since 1900 the distribution of this breed has not only spread over practically every state in the United States, but the number of animals has increased enormously. At present it is safe to say that they outnumber any other breed in America. Some authorities go so far as to say that there are a greater number of Duroc-Jerseys going on the market each year than any other two breeds combined. In the state of Virginia, I believe I am safe in saying that one half the hogs carry a large percent of Duroc-Jersey blood.

Organizations. Organizations to promote Duroc-Jersey pigs date back to 1883, when the American Duroc-Jersey Swine Breeders'

*Noted Strain

Breed Duroc-Jersey
 Sex Male
 Dropped April 28, 1911.
 Bred by Ira Jackson,
Tippecanoe City, O
 Owned by Ira Jackson,
Tippecanoe City, O

Jacks Friend.
 30379

Jacks Friend II
 37533.
 1st.- Int. 1913.
 Boar 2 yrs. or over.

King Nellie
 63480

Joe Orion
 23833

Pals Useful
 53758

*King of Cols
 16075

Nellie S
 40878

*Orion Chief
 13333

Buckeye Princess
 41860

Kings Pal
 17221

Useful Lady H.
 33942

*Prince of Col
 13571

Love
 35060

*Ohio Chief
 3727

May Woods II
 29724

*Orion II
 6537

Mable
 22518

*Earl's Col
 10419

Student's Name _____

Breed Duroc-Jersey
 Sex Male
 Dropped March 13, 1910
 Bred by Ira Jackson,
Tippecanoe City, O
 Owned by Ira Jackson,
Tippecanoe City, O

Orion 4901.	
Orion II 6537	*Ohio Anna 10068
Mable 22518	
Coldie 12149	
Buckeye Princess 41860	
Rosa B 24828	
High Chief 13423	*Ohio Chief. 8727
Cherry Queen 35440	
Cherry ing Lady 71034	
*King of Cols 16075	
Stylish Perfection III 59436	
Stylish Perfection 55508	

Joe Orion
23833

Joe Orion II
35527

4th Int. 1913.
 Boar 2 yrs. or over.
 Senior Champion Boar over 12 mos.

Student's Name _____

Breed Duroc-Jersey

Sex Male

Dropped Sept. 11, 1911

Bred by H.E. Browning,

Hersman, Ill.

Owned by H.E. Browning,

Hersman, Ill.

Prince of Col
13571

*King of Cols
16075

Love
35060

Chief's Col
22875

*Ohio Chief
8727

Chief's Burketta
46118

Burketta
28522

Col Crimson
41315

*Crimson Wonder
76867_N

*Lucy Wonder, 139th
86944

Educator
67139_N

*Lucy Wonder 109th
63394

Proud Fancy
140476 N-

Student's Name _____

Breed Duroc-Jersey
 Sex Male
 Dropped April 29, 1912
 Bred by C.F.Spragen,
Lima, Ohio
 Owned by E.C.Stevens & Sons,
Middle Point, Ohio

Joe Orion II
 35527

*Joe Orion
 23833

*Orion Chief
 13333

Buckeye Princess
 41860

*Cherry King
 21335

Cherry King Lady
 71034

*King of Cols
 (16075)

Stylish Perfection III
 59436

Stylish Perfection II
 55508

John S. Orion
 42853

1st.Int. - Boar 12 and under 18 mos.

*Ohio Chief
 5727

High Chief
 13423

Cherry Chief
 21335

Cherry Queen
 35440

Cherry King
 25979

Stylish Perfection III

81792

Big Jane
 55574

Student's Name _____

Breed Duroc-Jersey
Sex Male
Dropped April 1, 1912
Bred by C.F. Spragen,
Lima, Ohio
Owned by H. E. Browning,
Hersman, Ill.

* King of Col's.
10675

Premier
24965

O.C. Variety
33126

Volunteer.
32899

* C.E. Col.
12549

White Hall Model
15997

Rose Bud
36154

Model's Belle
51644

High Private
44031

Miss Burketta
39458

2nd. - Int. - 1913
near 12 mos. and under 18 mos.

Educator
67139
N

* Lucy Wonder 109th
63394

Proud Fancy
140476
N

Student's Name _____

Breed Duroc-Jersey
Sex Male
Dropped Feb.-, 22, 1911.
Bred by Wm. H. Robbins,
Springfield, Ohio
Owned by Wm. H. Robbins,
Springfield, Ohio

* Golden Rule
14101

Good E Nuff
22437

Cedar Vale Queen
31038

* Good E Nuff Again
24375

I Am Perfection
11633

Our Pride II
32528

Our Pride
25794

Royal E Nuff.
38417

2nd. - Int.- 1913.
Boar 2 yrs. or over.

* Orion II

* Top Notcher
8803

* Duchess 40th
18958

Cedar Vale Queen XI
33936

King Watt.
6067

Cedar Vale Queen II
20286

Cedar Vale Queen
18468

Student's Name _____

Breed Duroc-Jersey
Sex Male
Dropped _____
Bred by Wm. H. Robbins,
Springfield, Ohio
Owned by Wm. H. Robbins,
Springfield, Ohio.

Good Enough
22437

* Good E Nuff Again
24875.

Our Pride II
32528

Simon Pure
48089

3rd.- Int. 1913.
Boar 12 and under 18 mos.

*Orion Chief
13333

W.H.Pilot Girl
54364

*Pilot Wonder
9017

Pilot Girl
35162

*Model
22518.

Student's Name _____

Association was established at a meeting held at Chicago. Col. F. D. Curtis of New York was elected president and C. H. Holmes of Iowa, secretary. Probably the first organization for the promotion of the breed was organized by breeders of the so called "Red Hogs", at Elkhorn, Wisconsin, under the name of the Duroc or Jersey Red Swine Club, but in the latter part of the same year (1883) it was changed to the above Association. In 1885 the first herd record of this association was published. It had published forty one volumes, including the registration of about 78,000 females and 37,500 males, up to January 1916. On November 20th, 1891, the National Duroc-Jersey Record Association was organized at Genesee, Illinois, with J. M. Stonebraker of Illinois president, and G. W. Philipps secretary-treasurer. This association published volume I of its herd record in 1893, since which time more than thirty volumes have been issued, including the registration of many thousand animals. Each of these organizations has been very prosperous.

CONCLUSION.

In the study of seven breeds of swine, as previously noted, I find that the Duroc-Jersey farrows the largest number of pigs, and the Chester White raises the largest number among the lard type hogs. The large percentage (89.6) raised compared to those farrowed by the Chester White breed is also worthy of note. This either indicates that the young are born with more vitality, or that the sows rank first as mothers. The latter I believe to be

the case, although this is a question open for debate and cannot be decided here.

The Yorkshire farrows the largest number of pigs and also raises the largest number among the bacon types considered, although the Hampshire raises a larger percentage of pigs farrowed. (Tamworth not considered).

In making a final comparison of the four lard type breeds which I have studied, I submit the following table which is only a condensed form of showing the good and bad points of these breeds, their respective color markings, shape of face, etc. The numbers simply indicate the rank of point under consideration, as 1st, 2nd, etc.

Table.

Comparison of the Leading Lard Type Hogs.

Points considered.	Duroc-Jersey	Berkshire	Chester White	Poland-China.
Size	2	3	1	3
Quality	2	1	4	3
Maturity	2	3	3	1
No. pigs farrowed per litter	1 (9.3)	3 (8.2)	2 (8.5)	4 (7.6)
Percentage raised	3 (80.6)	-	1 (89.6)	2 (83)
No. in Virginia	1	2	3	3
No. in United States	1	3	4	2
Constitution	2	3	1	4
Home	N. Y. & N. J.	England	Ohio & Pa.	O. & Ind.
Color	Dark Red	Black -6 white pts.	White	Black-6 white pts
Face	Slightly curved	Dished	Straight	Straight
Ears	1/3 break	erect	1/2 break to lopped	1/3 break
Back	arched	straight	arched- low.	arched
Pasterns	medium	good	weak	medium to weak.

It is not advisable to compare the bacon type with the lard type, and as I have studied only two breeds of the former, I shall not attempt a comparison.

In summing up the Registry Associations, I shall give the name of association, its present secretary and address.

Registry Associations.

American Berkshire Record Association, Frank S. Springer, Springfield, Illinois.

The Chester White Swine Record Association, F. F. Moore, Rochester, Indiana.

The O. I. C. Swine Breeders' Association, O. C. Vernon, Goshen, Indiana.

American Duroc-Jersey Record, Robert J. Evans, Union Stock Yards, Chicago, Illinois.

National Duroc Jersey Record Association, J. R. Pfander, 604 Main Street, Peoria, Illinois.

American Hampshire Record, E. C. Stone, 703 E. Nebraska Avenue, Peoria, Illinois.

American Poland China Record Association, W. M. McFadden, Live Stock Exchange Building, Union Stock Yards, Chicago, Illinois.

National Poland China Record Association, A. M. Brown, Winchester, Indiana.

Southwestern Poland China Record Association, H. P. Wilson, Gadsen, Tennessee.

Standard Poland China Record, Geo. F. Woodworth, Maryville, Missouri.

American Yorkshire Club, Harry G. Krum, White Bear Lake, Minnesota.

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