

might be contributed by the albuminoids if they were entirely digested, leaving 18.3 lb. to be formed from carbohydrates.

While these early experiments of Lawes and Gilbert with pigs do not actually demonstrate the formation of fat from carbohydrates, they certainly make it very probable that fat is formed from these bodies in the case of a rapidly fattening pig, and they clearly point out the manner in which the crucial experiment should be conducted. The experiment should not be made on a very young pig, but on one which has so far developed its frame that fattening rather than growing may be expected. The food should also be of a very nourishing quality, but containing as little nitrogen as is consistent with this character; good barley meal, without any farther mixture, would excellently fulfil these requirements. It is evident that Weiske and Wildt, by working on very young animals, and employing a food poor in quality, which gave only a slow rate of increase, had not the conditions favorable to rapid fattening which are essential to a satisfactory solution of the question.

It will be interesting in conclusion to give the percentage composition of the bodies of pigs of various ages and fatness, as now determined by Weiske and Wildt, and Lawes and Gilbert:—

PERCENTAGE COMPOSITION OF ENTIRE PIGS, CONTENTS OF STOMACH AND INTESTINES ALONE DEDUCTED.

Age of Pig.	Fasted Live Weight.	Water.	Nitro-Genous Matter.	Undeter- mined Matter.	Fat.	Ash.
	Lb.					
6 weeks .. ..	18½	73.4	11.84	.66	0.94	3.86
7½ months .. .	56½	62.2	9.61	1.63	26.12	1.64
About 4 months	103	58.1	14.45	..	24.50	2.82
About 6½ months	191	43.0	11.34	..	43.98	1.72

PERCENTAGE COMPOSITION OF DRY MATTER.

Age of Pig.	Nitro-Genous Matter.	Undeter- mined Matter.	Fat.	Ash.
6 weeks .. ..	44.51	3.61	37.37	14.51
7½ months .. .	22.51	4.05	69.10	4.34
About 4 months	34.52	..	54.74	6.74
About 6½ months	19.90	..	77.08	3.02

PERCENTAGE COMPOSITION OF INCREASE DURING FAT- TENING BOTH IN ITS FRESH AND DRY STATE.

	Water.	Nitro-Genous Matter.	Undeter- mined Matter.	Fat.	Ash.
Weiske and Wildt..	56.75	6.88	1.81	34.00	.56
Lawes and Gilbert..	28.61	7.66	..	63.10	.53
Weiske and Wildt..	..	15.91	4.90	78.01	1.29
Lawes and Gilbert..	..	10.87	..	83.39	.74

The nitrogenous matter in Weiske's investigations was calculated by multiplying the nitrogen by 6.25; in Lawes and Gilbert's analyses the nitrogenous matter is

obtained by differences. To make a strict comparison between the two sets of analyses, the undetermined matter should perhaps be added to the nitrogenous matter in Weiske's results.

These analyses illustrate the fact that as an animal increases in maturity the percentage of water diminishes, while in the dry substance, nitrogen, and ash fall, and the proportion of fat rises. The great difference in the composition of the increase in the two experiments, teaches the necessity for always determining the nature of the increase by direct experiment in trials of this character.—R. W.

THE following bit of Horse History, from the *Spirit of the Times*, will be read with interest by horsemen:—

*"The King is dead—Long live the King."*

Rysdyk's Hambletonian died during the night of March 26, at the home of his lifetime, Chester, Orange county, N. Y., in his twenty-seventh year. His influence in the stud has marked an era in trotting history, and in the future he will be looked back to as one of the greatest representative horses of any age. We do not say that "take him for all in all, we never shall look upon his like again," but take him thus and we might not readily name his like in all we have ever yet looked upon. In turn, Lady Suffolk, Flora Temple, Dexter and Goldsmith Maid have been the pride and glory of the trotting turf, but that glory, brilliant as it was, could not outshine the light of Hambletonian's glory in the stud. He has been the pride of a nation of breeders, and his blood is valued as drops of gold, and will be handed down to future breeders as more precious than the metal.

Hambletonian was foaled May 5, 1849, the property of Mr. Jonas Seely, of Goshen, Orange County, N. Y. When but a few weeks old he was purchased with his dam, by the late Mr. William M. Rysdyk, of the neighboring town of Chester, the price being \$125 for the mare and foal. Hambletonian was got by Abdallah, whose fame at that time was already great as a sire, though he was passing into the seer and yellow leaf, and died two years after Hambletonian was foaled. The dam of Hambletonian was known as the Charles Kent mare, and he was the youngest of several foals that she bore. She was a mare of fine speed, and had a high reputation as a roadster about New York City. She was got by the imported Bellfounder, dam One Eye, by Bishop's Hambletonian, grandam Silvertail, by imported Messenger. As Bishop's Hambletonian was by imported Messenger, and Abdallah was by Messenger's son, Hambletonian affords an instance of

triple inbreeding to the great gray that crossed the Atlantic in the latter part of the last century, whose name is a tails man for trotting value, yet never so great as when derived through Rysdyk's Hambletonian.

In his latter years Hambletonian gave but partial warrant in his appearance of the grand horse he was in his prime. We first knew him then, and so long as memory holds her seat we shall never fail to recall his looks, bearing and action, so vividly were they impressed upon our mind. In all our experience of horses we never studied one more closely, because, from first to last, we never saw one that we regarded as in all respects his peer.

Mr. Rysdyk was wont to say that when he purchased Hambletonian, as a suckling, he was much influenced to do so by the fact that Abdallah's great merits were beginning to be understood, and that he was declining into old age with but few entire sons to perpetuate his line. Asperity of temper caused most of them to be castrated young, but he trusted to the ameliorating influence of the fine-tempered Bellfounder cross to correct the tendency in Hambletonian, and it fully bore him out, for a better dispositioned horse never breathed. He has transmitted the hard-fibred texture and speed qualities of Abdallah with the fine temper and more comely formation of Bellfounder, blended with the greatest nicety, and united with an iron constitution and longevity that might with equal propriety be credited to either. The foal Hambletonian grew apace, and with an evenness of development that made him attractive to the eye and gathered ample admiration from the horsemen of the vicinity, until he became two years old. At this period he was bitted, and led in tackle by the side of another horse, in which manner he soon learned to show a great deal of speed, which increased in practice, until, in his three-year-old form, the old pacer that Mr. Rysdyk rode in leading him was no longer able to be his company. At two years old he got a small number of foals, among them Alexander's Abdallah, that lives in history as the sire of Goldsmith Maid, Rosalind, etc. At three he was taught his first lessons at drawing a vehicle, and, we believe, got Volunteer, though the books place him a year later. That fall, Mr. Rysdyk showed him at the New York State Fair, held at New York City, insigated to this action by his friend and neighbor, Mr. Seely C. Roe, who owned another son of Abdallah, called Roe's Abdallah Chief, then five year old, which was also shown. After the fair was over, both horses were taken to the Union Course on Long Island to be given a