will turn up his aristocratic nose at chopped liver and butcher’s offal—for he is a clean feeder, taking his food alive, and prefers it on the wing—the food supply is a question that persons unacquainted with the subject fail to understand. They fail to see how a fish that, with favorable surroundings will multiply so rapidly and then grow so fast, are going to get enough to eat.

Right here we will make a general remark, and then explain it afterwards. The food supply in the pond will keep pace with the increase in number, and growth of the fish. Secondly the older the pond the greater the food supply. The first great feast that the black bass has is on the tadpoles and a feast of fat things he makes of it. As soon and even before the ice is all out it seems that all of the frogs and toads in all of the adjoining counties are in the fish pond. In a few days, or as soon as the water gets a little warm, it is swarming with tadpoles. Then the bass have a happy time, and refuse to take a minnow unless it is offered to them early in the morning before they begin to move about. The tadpoles furnish the larger part of food for the bass until the tadpoles get their legs, which is along about the middle of July. Then his frogship gets out of the pond as soon as he can, well knowing what will be after him. About this time the young chubs, dace and stickle-backs, which breed in immense numbers in shallow places in the pond, will be from one to two inches long, and they will furnish the bass his principal supply of food until about the first of October. About this time the soft shelled water snails that have bred in the soft dirt in the bottom of the pond, begin to come up, and in a few days every blade of grass, or piece of board will be covered with them, and in many places large masses of them collect together in the water. Upon the snails the bass feeds to repletion. He is now laying in a store of fat preparatory to going into winter quarters. At this time he cares but little about the minnow. Upon the approach of cold weather he seeks the deepest water, and there under a bunch of moss, or under the side of a stone or an old root, he enjoys a season of perfect repose. He neither eats, or grows, and comes out in the spring an older, and a much thinner fish than he was in the fall. As an edible fish the black bass has few equals, and it is doubtful if he is surpassed by any. W. H. Herbert (Frank Forrester) says the ‘black bass is one of the finest of fresh-water fish, and is surpassed by very few in excellence upon the board.’ Parker Gilmore says that the black bass is superior to the trout. As a game fish the black bass stands pre-eminent. A. J. Henshall, who is an authority on the subject, says of the black bass, he is plucky, game, brave and unyielding to the last when hooked. He has the arrowy rush and vigor of the trout, the untiring strength and bold leap of the salmon, while he has a system of fighting tactics peculiarly his own. He further says that he considers him ‘inch for inch and pound for pound the gamest fish that swims, and that the royal salmon, and the lordly trout must yield the palm to a black bass of equal weight.’ Whoever has hooked the ‘monarch’ of the pool or has seen the swirl upon its surface, or listened to the music of the singing of the line, or watched the noble game as curving it reaches back and forth, he darts in conscious strength, describing arcs and segments in the shadows of the ruffled pool, will be willing to admit that he is game. Whoever has seen him leap from the water when hooked shaking himself like a lion shaking his shaggy mane, making a gallant fight in air or water all the same, will be willing to admit that the black bass is the gamest of game fish.”

The Merits of the Hereford Cattle.

[By N. W. Van Metre, of Mineral Point.]

The position that you have assigned me is one which I fear that I am inadequate to fill, being a novice in the breeding of Herefords. However, I have selected, from information which has come within my knowledge, a few facts and statements that may be of benefit to you and help you to better appreciate my favorite breed of cattle.

The proper aim of Institutes, agricultural societies and farm journals is “to encourage the best breeds, the best methods and practices, and to bring these facts before the public. A breeder is not entitled to encouragement unless his efforts tend to produce the best butcher’s beast, whether it be a sheep, a hog, or an ox, and the societies whose efforts do not tend to this end are open to criticism, and should not be encouraged. There is one breeder of fine
stock for breeding purposes, where there are one thousand for the butcher." From these breeders of fine stock the many purchase animals for the improvement of their herds. If stock journals and agricultural societies connive together to keep before the public breeds and strains of blood that are not the equal of others in vigor of constitution and quality of carcass, then they are assisting in defrauding the public, and ought to be discouraged. I, as a breeder of White-faces, believe that "economy of production and value of product" ought to be the standard of merit.

Until last March, as far as I know, there were none of these cattle in Southwestern Wisconsin. So little was known of them by many farmers that, on seeing them at our fair, they did not know what kind of cattle they were.

"About 120 years ago Mr. Benj. Tomkins of Herefordshire, Eng., then a young man just starting life, commenced a herd with two cows. He was the founder of the breed, and has the credit and honor of this position. Others followed and worked with him, until the work that he commenced was recognized as a success, and the highest price that was ever obtained for animals belonged to this herd in the early part of the century. Careful experiments were made by the Duke of Bedford, fifty years ago, and they resulted in the establishment of the breed on his estate at Woburn. Fifty years ago the records of the Smithfield Club showed that the Herefords had taken more than double the premiums when contrasted with all the other breeds combined. A history purporting to be "A History of British Cattle," was written fifty years ago, but it did not note the name of the Tomkins' herd in 1816, nor did it notice the sales of Mr. Westcar, of Hereford cattle from 1800 to 1820, at prices unprecedented in the history of cattle, or the experiments of the Duke of Bedford, or the record of the Smithfield Club, or of the Smithfield show, in which more premiums were given to the Herefords than to all other breeds combined; yet the work to which we refer has been received as authority. During the last 100 years Herefords cattle has been selling in the London market at a penny a pound more than the Short-horns, and from grass more than any other breed, while they would make beef at twenty-five per cent less cost. These were facts acknowledged by those persons who were familiar with the subject."

The Herefords are a kindly and hardy race of cattle, feed speedily and at an early age, and may be driven to market at 2-years old. They may be described as follows: Conformation pleasant; head small; chest deep; bosom broad; projecting forward; shoulder-bone thin and flat; shoulder full and mellow in flesh; chest full; loin broad; quarters long and wide; tail slender and neatly haired; the carcass throughout deep and w. ll-spread; round bones, small and snug, and not prominent; legs upright and short; flesh, everywhere mellow, soft, and yielding pleasantly to the touch, especially on the back, shoulders and ribs; coat neatly haired, bright and silky; color most generally a middle red, with a white face, which latter is characteristic of the Herefordshire breed. And Vousat says, in writing of the Sussex, "The Hereford bears his flesh on the ribs and sirloin; the Sussex on the flank and inside. There may be some truth in this. Yet it cannot be denied that the Herefords carry theirs in the best places. And it is on this account that the prize is so often adjudged to them at the cattle shows, and particularly at Smithfield."

Pure breeding for a long period is one of the merits of the White-face, and it enables the sire to stamp his own good qualities indelibly on his offspring. Out of a herd of 52 grade calves, bred in one season from the same sire, 50 were red with white faces, and all were so built as to show unmistakably their Hereford parentage.

At the New York State Fair of 1883 two Hereford steers, which took first and second prizes, were dressed. The beef in the carcass of one was 63 per cent. of live weight, and of the other 69 per cent. With hide and tallow the former turned out 80 per cent. and the latter 87 per cent. The lean was finely streaked with fat, and was of rich texture. Not only the small per cent. of offal, but the fine quality of the meat are other merits of our breed. And my own experience in regard to economy of feeding is that I can keep four of them on the same amount of feed, and in the same condition that I can three Short-horns, and I know whereof I speak.
Although in a few instances importations had been made into the United States by different persons, extending over a long period of time, there had been no general movement to introduce them to the notice of the farmers of this country until twelve or fourteen years ago. T. L. Miller, of Beecher, Ill., and others having had them brought to their notice, investigated their merits and decided that they were superior to any other race of cattle. They went into the business of breeding them and determined to make it a success if it was possible for merit to succeed. The record of their achievements is familiar to most of you who have read impartial newspaper reports. They have made a record in the past six years of which any admirer may feel proud. They have fought their way against wealth and prejudice, and followed up the successes they have met with during the past century on the other side of the Atlantic, by the highest honors to be obtained on the continent of America. All the White-face asks at your hands is fair play and no favors. I need not burden you with statements of the winnings of prizes at the fairs and shows this fall. They have been all that could be desired. But we can not refrain from giving a clipping or two from the Breeders Gazette, of the 2d and 9th. In summing up the successes of the Early Dawn Herd it says: “At the Inter-State Exposition at St. Joseph, Bean Real beat a field of twenty-two competitors (followed by four others). It is questionable whether a stronger ring of bulls was seen at any fair this fall, Short-horns, Herefords and Angus being represented by ‘crack’ specimens of the breeds.”

The last issue says: “Just as we go to press we are informed, by wire, that a cablegram just received by C. B. Stuart, of Lafayette, Ind., announces that the championship of the Smithfield Club’s Fat Stock Show, just concluded in London, Eng., has been awarded to a Hereford steer. In view of the fact that a bullock of this same breed gained the grand sweepstakes prize at the great American show recently held in this city, our informant’s enthusiasm is perhaps pardonable, when he concludes his dispatch by saying, ‘Blood will tell. White-faces will not down. Every dog has his day.’ But the Herefords have made a grand record during the past three months, and no one will be disposed to rob them of their laurels.”

In conclusion, let me say, whenever a bullock is found of a heavy, blocky build, on short legs, whatever name he may be known by as to breed, he is pronounced a good one, and the breed that produces such, of the greatest uniformity, is the best. The Hereford is uniform in this particular, and this class of bullock is the exception in the Short-horn breed; hence the value of the Hereford.

Mixed Farming.
[By W. A. Chamberlain, L. I. D., President of the Iowa Agricultural College.]

Mixed farming is coming to have a bad name in many quarters. The word mixed seems to suggest the idea of confusion, lack of system, frittering away the energies on a multitude of small details. This kind of “mixed farming” I do not believe in, at least for these times. The mixed farming I do believe in I will describe further on. The kind I don’t believe in is a kind of outgrowth of old times and conditions—a failure to adopt the style of farming to the changed conditions. When transportation was practically impossible, no railroads but “corduroy,” and no markets except for barter or store pay, the farmer must raise and make about all he and his family ate, drank, wore and lived in; i. e., food, clothing, shelter. But, now, with our immense advance in machinery, our matchless facilities of transportation and exchange, the tendency is strongly towards division of labor, and concentration of effort upon specialties. And it is wisest and best that it should be so. It sometimes cramps and narrows the individual worker intellectually, especially under our manufacturing systems. Unquestionably the division of labor and the specialization of employments in manufactures and commerce greatly increase the production of material benefits to the race. In agriculture, however, Nature has set up barriers against carrying specialties too far or in too narrow lines. Some of those barriers I will describe further on. But to a certain limit specialty farming, concentration of intelligence and effort upon fewer crops and kinds of stock, is wise.

I have said that the objection to a