

above her keep. I have charged nothing for attendance, and barn room, but neither did I credit her with the skim-milk and buttermilk, the large pile of manure, or the fine heifer calf she gave me. It has been said that this was an exceptional animal, and that few cows would respond as she did. Precisely. That just hits the nail on the head. Now, what we want to do is, to get rid of those poor cows that will not respond to feeding. Beef them, bury them, but get rid of them, as I have said in my book, and you will make money where you are losing it now. Some years ago I bought from a friend closing out, a number of Jerseys closely related to my own. I knew them to be extra good, but they were in a starved condition and, having been obliged to buy all or none, I was overstocked and short of feed, too, and I was prepared to give a bargain to an acquaintance who came to buy. I offered him a large, handsome heifer, soon to drop her first calf, for one-third of her value, but after no end of fussing he went off and bought a cheaper and poorer one. This very summer he sold a solid-colored heifer calf from that cow, eligible for registry and all right in every way, for \$15 and was glad to get it. My heifer dropped a fine heifer calf which I sold for \$100, and that same summer tested 14½ lbs. butter a week, then made her mark as a winner at our largest fairs, and I eventually sold her for nearly four times the price Mr. Smith refused to pay. Her new owner tested seventeen cows accurately for a whole year for butter and cheese, and what is far more important weighed and charged every bit of food. Not only did the cow I sold him produce far more butter and cheese than any of the seventeen, but she made it at far less cost than any of the whole lot, except one, who made butter a small fraction cheaper, but so little of it as to be almost worthless.

My cow's test for the year was :

Milk.....	6,702 lbs.
Butter.....	424 lbs.

Showed by test, if it were made into cheese, 954 lbs., and the total food cost for the year was \$37.50. These are actual facts and I wish the record were printed and in every barn in the country. It adds to the value of this cow's record to tell you that she was not a "sport" or an accident. Her dam, whom I never owned, was not tested for butter, but I saw her yield over twenty quarts strained milk in the day. Her half-sister made 14 lbs. 5 ozs. butter on her second

calf, before three years old. Her grand-dam made over 17 lbs. a week and over 20 quarts a day, and was not a day dry in years. Her grand-dam's sister made 17½ lbs. a week, milked 47 lbs. a day, and, when over thirteen years old and one hip knocked down, she made for the person who bought her from me, in less than eleven months, 340 lbs. of butter on ordinary keep and milk set in shallow pans.

As I only keep half a dozen cows now, and shall never exhibit again, I may be pardoned if I refer to the exhibitions of '96, which was my valedictory year. I had a grand, golden fawn bull, Liliun's Rioter, that took 1st prize at Toronto, Montreal, Ottawa and Gananoque, sweepstakes at all these places, and also headed my first prize herd at all these places. This bull was the son of one of the great cows I have named, and as closely as possible related to all the others, thus bearing out the judges' verdict in the most triumphant way. Try, therefore, to have not only one cow as good as those I have named, but all your herd as close to that mark as possible. Keep no bull except one with such a glorious array of performers in the family, not on paper but *in actual fact*, and then your success in the dairy will be equalled by that in the show ring. An expert judge is not often mistaken. Where you have true merit it is generally known. But remember that without good, sensible, unceasing care of your cattle you cannot succeed. No animal can thrive under neglect or unsuitable treatment, and no one can expect to make money in cattle who thinks that "any sort" of care and keep are good enough. You know the old saying that, "No eye watches like a mother's." That is indeed true, but just next to that comes the eye of the dairyman who knows his business, and when he shuts that eye his profit is gone.

—Farming.

Science.

NOTES ON RECENT AGRICULTURAL CHEMICAL RESEARCH.

(DR. C. M. AIKMAN.)

Experiments have recently been conducted by Professor Déherain as to the amount of nitric nitrogen produced in a certain amount of soil when kept under conditions most favourable for the pro-