APPENDIX II.

Why must strict cleanliness be observed in milking.

By J. C. Chapais.

We never cease repeating to all dairymen that, without clean-
liness, it is impossible to make good butter or good cheese. This
cleanliness must be observed throughout, from the act of milking
to the exposure for sale of the article manufactured ; but, if there
be one special juncture at which the milk producer must put in
practice the laws of the most scrupulous cleanliness, it is during
the moment of milking. How often has one said, how often
written, that the hands must be washed, the pails well cleansed,
and above all the udder of the cow brushed or washed, the instant
before beginning to milk : and yet, in spite of all theese counsels,
how many still set to milking with filthy hands into badly washed
wooden pails, or into tin-pails scalded with *cold* water, and do not
care if the cows udder be foul, leaving hair, scurf, or even morsels
of mud or dung, at liberty to fall into the milk.

Now, I am about to show these negligent ones how great an
injury they are inflecting on themselves, on the patrons of the
same cheesery they supply, as well as to the unlucky maker who,
but too often, loses his reputation by dealing with the foul milk
they take to his factory.

In 1895, experiments were carried out, at the experiment sta-
tion of North Dakota, that proved that, when the udder and sides
of the cow are not cleansed before milking, a great number of
bacteria, microbes and bacilli, germs of several kinds, fall into the
milk. To demonstrate this, under the udder of a cow, about to be
milked in the cowhouse, was exposed for 15 seconds, above the
pail which was to receive the milk, a sterilised gelatine plate, three
inches and a half in diameter, prepared expressly for this exper-
iment. Seven separate trials proved that there fell on each gela-
tine plate thus exposed an average of 844 germs in one minute,
those germs being of eleven different species. If 844 a minute is
the average on the gelatine plate, this will be equal to 6890 in the