

American Society of Baking

Technical Bulletin #11

Victor E. Marx, Secretary
1135 Fullerton Avenue
Chicago, ILL.

September, 1925

MOULDING MACHINES

By William E. Doty, Bakery Service Dept., Washburn-Crosby Co., Los Angeles, Calif.
Copyright 1925 by the American Society of Bakery Engineers

In most plants and especially so in the medium size and smaller plants, too little attention is paid to Moulding Machines. I do not have reference so much to the type of machine used, as to the adjustments. My opinion is that it would be impossible to pay too much attention to your adjustments. Most machine hands set their Breaker Rolls and Compression Plates at the beginning of a days run and unless the Superintendent or Foreman happens to come around and reset them, they will remain the same throughout the entire days run.

My experience has taught me that to get best results, the Breaker Rolls in particular should be adjusted differently for each type of dough. You cannot get results from a Graham or Whole Wheat dough using the same adjustment and compression as would be best suited for a White dough. We all know that the stiffer a dough is, the tighter it is possible to set our Breaker Rolls without causing the dough to tear. A dough made from a strong flour would require entirely different adjustment than dough made from softer flours, even though the consistency and proofing time be the same. Just a few of the many things that will necessitate changing your entire adjustment: Consistency of the Dough, Age of Dough, Time of Proof, Size of Loaf, Kind of Dough, Graham, Whole Wheat, Raisin, White, Cracked Wheat, Rye. All these things enter into what kind of pressure you should have and how far apart your Rolls should be set. So many things enter into consideration that in a great many shops, it would be necessary to change your adjustments for practically every dough, in order to get the best possible results.

How many times have you been confronted with an unusual number of holes in your bread, a dark circular streak, or a sort of a core in the loaf. Nine times out of ten if your moulder hand had properly adjusted his machine and properly regulated his flour stream, this would have been avoided. Moulders are not always responsible for holes or rather they are not responsible for all holes, but generally, they are responsible for the greater part of them. Moulders are invariably responsible for circular streaks.

A rough streaked top crust can always be directly traced to poorly adjusted moulders. A sway backed loaf or a loaf larger at the end than in the middle can always be traced to improper adjustment of the compression plate.

If you are sure of your fermentation and are still having trouble, start at the moulder and 90% of the time your search will end there. The moulding machine is most always the hardest worked machine in the shop and being the highest speed machine, naturally it should require the most attention, usually it gets the least.

CARE OF A MOULDER. Your mechanic should see that the scraper plates on all the Rolls are set as tightly against the Roll as is possible without causing enough friction to heat the Roll. The guide plates on top at the end of the Rolls should always be as snugly fit as possible. Both scraper plates and guide plates are easily adjusted.

Always see that your Rolls are thoroughly cleaned after each change, small particles of dough being left on the Rolls will rust and cause the Rolls to pit and become rough and when your Rolls are rough, it will be impossible to get a well moulded loaf. During my experience, I have found a scraper made from hard maple to be the best adapted for cleaning Moulder Rolls.

The Compression Plate should always be fit so as not to bind on the flange of the drum. Binding will cause enough friction to heat the flange and thus cause the end of the loaf to stick to whichever side is heated. The natural result with one end sticking and the other running free is to discharge the loaf at an angle and they will invariably be poorly moulded, mishapen loaves.

ADJUSTMENT OF MOULDER. The first set of Rolls, generally called the Breaker Rolls, should be set as tight as possible without tearing the dough. The next set or Curling Rolls should be set to allow the strip to curl as tightly as possible without sticking. A great many doubles are caused at this point by having the Curling device slightly too tight.

The Drum Compression should be adjusted so as to have the loaf discharged evenly and uniformly moulded. Too many men set the Compression Plates entirely too tight, causing the hollow center. This is the cause of more holes than any other one thing. If when the loaf comes out straight and even, you are still troubled with holes, have your mechanic put an extra thickness of canvas around the center of the Drum about one third the width of the Drum. This will give you considerable more pressure in the center of the loaf and will aid materially in cutting down the number of holes. This especially applies to extensions. On all parts of your Moulder, use as little dust flour as possible. Practically all streaks and cores can be traced to too much dusting flour.

Watch your moulder, experiment with it and pay particular attention to the results and you will be surprised how many things can be traced to the moulder.

In this article, I have tried to impart some information gathered from practical experiences that I hope will be of service to someone. If it only helps one person out of the many who may read it, I will feel that it has accomplished its purpose and that the time taken in writing it has been well and profitably spent.