

the use of this method it became evident that the gastric secretion was higher in its content of HCl early in digestion than it was toward the end and that there was a general lowering of the acid percentage as digestion progressed, in the same way that there was a lessening in the amount of juice secreted. The amount of HCl in gastric juice in the first two hours of digestion was from 0.4 to 0.5 per cent., whereas in the last hour it sometimes fell to 0.2 per cent. or slightly lower.

The acidity of the juice and to some extent the variation in secretion varies with different dogs and with different diets, but with any one animal the response elicited by a certain test meal is remarkably constant, and the curves of acid secretion, like the curves for the amounts of juice secreted, are uniform.

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The effects of some organic acids on the secretion of gastric juice.

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The acids used in these experiments were given in food to dogs with Pawlow double stomachs. The following acids were employed in concentrations of 0.5 per cent. and 0.2 per cent. in all experiments: lactic, butyric, citric, acetic. Lemon juice (7 per cent. citric) and vinegar (4.8 per cent. acetic) were also used. In no case, with the possible exception of vinegar, could a stimulating action on the gastric glands be attributed to the acid liquids administered. The juice secreted, in amount and acid content, was uniform with the controls. In some cases vinegar appeared to excite a more copious secretion of juice but this result was not constant. The distillate from neutralized vinegar acted in the same way as vinegar, while acetic acid alone appeared to be inert. From this it may be inferred that if vinegar has any effect upon digestion, it is due to the volatile substances which it contains and not to the acetic acid.