acids and possibly a sterol ester. Similar classes of neutral lipids were found in the sporophore of *A. bisporus* (Hughes, 1962). The acetone eluate from the column contains the acylated form of the carbohydrates found in the aqueous fraction. The composition of this fraction will be described elsewhere.

Phospholipids were found only in the chloroform-methanol eluate. T.l.c. in chloroform-methanol-water (65:25:4, by vol.) and spraying with specific reagents showed principally phosphatidylinositol and phosphatidylethanolamine. Phosphatidylcholine was absent. These identifications were confirmed by acid hydrolysis and paper chromatography, which demonstrated glycerol, inositol, ethanolamine and traces of serine, but no choline. Mild alkaline hydrolysis and paper chromatography in propan-2-ol-aq. ammonia (sp.gr. 0.88)-water (7:1:2, by vol.) showed glycerylphosphorylinositol, glycerylphosphorylethanolamine and glycerylphosphorylserine.

This work is the early part of a study of the composition of *A. bisporus*, in the fruiting and vegetative stages, which may provide some insight into the metabolic differences underlying the initiation of sporophore development. It may also help to elucidate the role of lipids in stimulating spore germination (Lösel, 1967).

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Rennin Coagulation of Cow's Milk

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There are wide variations between milks of individual cows in the time taken to form a clot with rennin (EC 3.4.4.3). These variations may be due to factors such as Ca^{2+} concentration (Pyne, 1953) or pH (White & Davies, 1958) of the milk, which affect the coagulation phase, or to the amount and composition of the κ -casein, which could affect the primary phase of rennin action.

The primary phase may be conveniently studied by following the release of glycopeptides from κ -casein as determined by the increase in nitrogen soluble in the 12%-(w/v)-trichloroacetic acid filtrate

of the milk after the addition of the enzyme (Alais, Mocquot, Nitschmann & Zahler, 1953). Using the milk samples from individual cows, which were in mid-lactation and free of bacterial infections of the udder, we have observed that the clotting time of the milk decreased with increasing initial rate of the primary phase. This finding demonstrates that the primary phase is a critical factor in determining differences in clotting time between milks of individual animals. Further, we have observed that the initial rate of release of glycopeptides increased with the amount of glycopeptides released by rennin.

It is possible that at the concentrations used the enzyme may be present in excess, so that the initial rate of release is determined by substrate concentration. However, this explanation is unlikely because when the rennin concentration is varied there is a corresponding change in the initial rate of release of the glycopeptides and in the clotting time of the milk (Castle & Wheelock, 1970).

It has been postulated that the micellar κ -casein stabilizes the casein micelles and that the serum or 'rennin-accessible' κ -casein is responsible for coagulation of the milk (Parry & Carroll, 1969). When the serum κ -casein is hydrolysed the insoluble para- κ -casein becomes bound to the surface of several micelles and so joins them together into a clot. It follows from this that the amount of serum κ -casein will be directly related to efficiency of coagulation. Assuming that the total release of glycopeptides by rennin action can be used as a measure of the amount of serum κ -casein in the milk, then our results are in complete agreement with the ideas presented by Parry & Carroll (1969).

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Kinetics of the Primary Phase of Rennin Action on Whole Milk

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The kinetics of the primary phase of rennin (EC 3.4.4.3) action on whole milk have been studied by using the approach outlined in the previous