D-23: Abnormal gill conditions in cultured shrimps on acid sulphate soils.

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Acid sulphate and potential acid sulphate soils are considered as problem soils for shrimp culture development. Entrepreneurs who have farms located in these soils often report gill colour changes associated with impaired growth, poor production and heavy mortalities in cultured shrimps.

The present study reports the light microscopic (LM), scanning electron microscopic (SEM) and transmission electron microscopic (TEM) observations on gill samples collected from 8 shrimp farms located on acid sulphate soils.

Gill lamellae were covered with heavy deposits of coarsely granular electron dense material. Histochemical studies confirmed the presence of iron in these deposits.

Increased vaculations, dilated blood sinuses, pillar cell rupture, hypertrophic and hyperplastic changes, haemocytic infiltrations and encapsulations were observed in tissues of gill lamellae.

Gills of the affected shrimps were also infested with ectocommensal protozoan *Zoothamnium*.