

Estrogenic factors

Description

These non-steroidal estrogenic substances are mostly isoflavones that occur in the form of glycosides (Francis *et al.*, 2001). In soybean, for example, genistein is the most prominent isoflavone (Tacon, 1997). They can bind to oestrogen receptors or get converted into compounds that have estrogenic effects (Francis *et al.*, 2001). Studies with Siberian sturgeon have shown that phytoestrogens could induce vitellogenesis (Francis *et al.*, 2001).

Occurrences

Phytoestrogens are present in many cereals, legumes and oilseeds such as barley, rice, wheat, corn, chick pea, lucerne, groundnut, soybean, cottonseed and linseed.

Treatment

Genistein has been reported to be heat-stable, but phytoestrogens are not a serious threat to fish (Tacon, 1997). They should however be taken into account while formulating the feed (Francis *et al.*, 2001).