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ONLINE ISSN : 1881-3984

PRINT ISSN : 1344-6606

Food Science and Technology Research

Vol. 7 (2001) , No. 2 pp.110-115

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Flow Mechanism for Fluidity of Silkworm (*Bombyx mori*) Blood in a Capillary

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(Received: May 23, 2000)

(Accepted: December 28, 2000)

Flow property and dispersal state of silkworm (*Bombyx mori*) blood in a capillary were studied using various bore-sizes of a low shear capillary viscometer combined with photomicroscopy. The viscosity of blood showed the characteristic shear rate dependence and viscosity value influenced by the capillary bore-size. This dependence was affected by the change in dispersal state of particles in the silkworm blood and also affected by the feeding. These effects can be attributed to the formation change of the aggregates of dispersed blood cell particle and particle number distribution in a capillary. The change in flow mechanism of the silkworm blood obtained from the feed of mulberry leaves and artificial feed was elucidated by the blood cell particle distribution in a capillary. From this experimental result, a flow model of the blood was derived and the wall layer was determined to be composed of double layers in the flowing liquid of a capillary.

Keywords: [silkworm](#), [blood](#), [flow property](#), [capillary flow](#), [flow model](#), [Bombyx mori](#)

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doi:10.3136/fstr.7.110

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