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Thermotherapy for HLB Management - Historical perspective, anecdotal evidences, and recent research progress

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Although Asian type HLB is regarded as heat-tolerant, our literature review and analysis of climate data suggest that high summer temperature appears to restrict HLB distribution and occurrence. HLB worldwide distribution and severity appear to be impacted by high summer temperature - HLB is the most severe in the subtropical and tropical regions with moderate summer temperature maxima. Florida in the US, São Paulo in Brazil, Guangdong in China, and severe HLB occurrence regions share this climate characteristic.

Using heat for HLB management was first explored by Chinese scientists in the early 1960s. Studies revealed the effectiveness in using hot water and/or hot air for producing pathogen-free propagative materials. Small scale field trials were conducted using plastic sheeting in around the 1980s. Results were inconsistent, due to lack of quantitative means for measuring the efficacy under field conditions. Recent lab and field studies by our group in Guangdong and Fujian, China, and Florida reveal interesting findings. Las titers can be undetectable in the best scenario in lab studies. Field studies achieved significant Las titer reduction and symptom remission.