

AMP[®] Activator a New Adjuvant for Aquatic Plant Management

Ryan M. Wersal and Bill Ratajczyk, Lonza Water Treatment, 1200 Bluegrass Lakes Pkwy, Alpharetta, GA 30004

AMP[®] Activator is a new patent pending adjuvant that combines proteins and surfactants to improve control of both aquatic vascular plants and algae. The use rate of the adjuvant in combination with aquatic herbicides and algaecides is density dependent and ranges from 0.25 gal/acre to 1 gal/acre. In small scale aquaria trials on Eurasian watermilfoil (*Myriophyllum spicatum*) using an 8 hr exposure it was observed that the LC₅₀ for Eurasian watermilfoil treated with 2,4-D alone was 0.77 mg/L ($r^2=0.91$). When AMP[®] Activator was added to the 2,4-D treatments the LC₅₀ was decreased to 0.34 mg/L ($r^2=0.87$). AMP[®] Activator resulted in the reduction in exposure time needed to control hybrid watermilfoil with 2,4-D. When 2,4-D was applied alone it required at least 24 h of exposure time, however only 12 h was needed when AMP[®] Activator was added to the treatment. Algal Challenge Test (ACT) results demonstrated that AMP[®] Activator applied to Lyngbya from Lake Gaston, NC first followed 2 days later by Algimycin[®] PWF elicited the greatest response among algaecide treatments. Additionally, *Anabaena* sp. and *Aphanizomenon* sp. from Morrison Lake, MI subjected to an ACT resulted in the recommendation of 0.5 gal/acre-ft. of AMP[®] Activator followed 4 days later by 20 lbs/acre-ft of Phycomycin[®] SCP based on chlorophyll *a* and cell densities. When Phycomycin[®] SCP was applied alone it required 60 lbs/acre-ft to achieve the same results. AMP[®] Activator has shown promise at multiple scales on several plants and algae in enhancing the efficacy of both herbicides and algaecides.