

3.3.4 Metabolization of HT-2 and T-2 in Whole Blood and Plasma

The possible metabolism of HT-2 and T-2 was also studied using blood from a Canadian source. Whole human blood and plasma samples were fortified with T-2 and HT-2 toxins at a level of 100 ppb each, then the samples were incubated at 37°C (whole blood and plasma). Other similarly fortified whole blood samples were kept chilled at 5°C for 17 days.

A time study (Figure 1) shows that at 37°C in whole blood, HT-2 toxin was essentially completely metabolized after 2 hours; whereas, only 46% of the T-2 toxin had been metabolized during the same time period. The level of T-2 toxin had decreased to 10% after 7 days. In contrast, metabolism of the two mycotoxins at 37°C was less in plasma. In the case of HT-2 toxin, 50% remained after 2 hours, and slightly less after 6 hours.

When stored at 5°C, T-2 was not degraded to any extent in whole blood after 17 days, whereas HT-2 toxin had again undergone considerable degradation during that time and only 8% was recovered.

This experiment proved the importance of storing the blood samples at low temperature as soon as possible after they had been collected. It also pointed to the desirability of separation of the plasma from whole blood in addition to storing at low temperature.