

Absorption and translocation of ^{14}C -picloram in leafy spurge

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The influence of ammonium salts, 2,4-D and spray solution pH on the absorption and translocation of ^{14}C -picloram was determined in leafy spurge. Absorption and translocation of ^{14}C -picloram in leafy spurge were greater when ^{14}C -picloram was applied with 0.1 and 0.5 g/100 ml ammonium sulfate than when applied alone. Absorption and translocation of ^{14}C -picloram in leafy spurge were similar when ^{14}C -picloram was applied alone and with 0.1 and 0.5 g/100 ml ammonium nitrate.

Leafy spurge absorbed and translocated more ^{14}C -2,4-D than ^{14}C -picloram. Addition of 2,4-D to ^{14}C -picloram or picloram to ^{14}C -2,4-D did not increase translocation of either ^{14}C -herbicide to leafy spurge roots compared to the respective ^{14}C -herbicide applied alone.

Absorption and translocation of ^{14}C -picloram in leafy spurge were similar regardless of unbuffered treatment solution pH. Absorption and translocation of ^{14}C -picloram were greater when ^{14}C -picloram was applied in buffer solutions at pH 4.8 than at pH 3.1, 6.4 and 10.3. Buffered treatment solutions at pH 4.8 but not 3.1 or 6.4 increased ^{14}C -picloram absorption in detached leafy spurge leaves compared to unbuffered treatment solutions at a similar pH.

Absorption of ^{14}C -picloram in detached leafy spurge leaves increased as the citrate buffer concentration increased from 0 (unbuffered) to 0.1 M. Absorption of ^{14}C -picloram in detached leafy spurge leaves increased as time after treatment increased from 1 to 24 hours. Trisodium citrate increased ^{14}C -picloram absorption in detached leafy spurge leaves more than any other buffering agent tested compared to an unbuffered treatment solution.