

# Photosynthetic Electron Transport Inhibition by 2-Substituted 4-Alkyl-6-benzylamino-1,3,5-triazines with Thylakoids from Wild-Type and Atrazine-Resistant *Chenopodium album*

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The effect of 2-benzylamino-1,3,5-triazines on photosynthetic electron transport (PET) was measured with thylakoids isolated from atrazine-resistant, wild-type *Chenopodium album*, and spinach to find novel 1,3,5-triazine herbicides bearing a strong PET inhibition. The PET inhibition assay with *Chenopodium* (wild-type and resistant), yielded a resistance ratio ( $R/W = I_{50}(\text{resistant})/I_{50}(\text{wild-type})$ ) of 324 for atrazine while for benzylamino-1,3,5-triazine derivatives of diamino-1,3,5-triazines a R/W of 11 to 160 was found. The compounds having a benzylamino group at one of the amino groups in the diamino-1,3,5-triazines have a resistant ratio down to one half to 1/30 of the atrazine value. The average resistance ratio of 21 benzylamino derivatives of monoamino-1,3,5-triazines was found to be about 4.0. The inhibition of 21 benzylamino-1,3,5-triazines assayed with atrazine-resistant *Chenopodium* thylakoids, indicated by  $pI_{50}(R)$  -values, correlated well with the PET inhibition  $pI_{50}(W)$  of wild-type thylakoids from *Chenopodium*.