



## \textbf{Historical Usage Inventories of DDT in China}

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Dichlorodiphenyltrichloroethane (DDT) is one of organochlorine pesticides and listed as one of the persistent organic pollutants to be reduced and finally eliminated in the Stockholm Convention on Persistent Organic Pollutants, because of its great persistence, toxics, bio-accumulation and potential for long-range transport. It is critical to create national DDT usage/emission inventories for China to carry out source–receptor relation analysis, risk assessment, and other research related to DDT in this country. Chinese inventories of DDT to the year1983 have been published; however, DDT is still being used indirectly in the dicofol producing and being applied for malaria control in case. Therefore it is needed to supplement and update the inventories.

DDT production in China can be divided into three phases. Prior to 1965 is the first stage with an annual output of no more than 10,000 tons; 1966-1983 is the second phase. At this stage DDT was produced with an average annual production of 15,500 tons. After 1984 is the third production phase, of which the average annual DDT production was 6,465 tons. Before 1983, DDT was mainly used for agriculture, forestry and pesticides. China used a total of 270,000 tons of DDT during 1951 - 1983. According to China's cropland area, Li Yi-fan create China's DDT usage inventory of 1951-1983. In 1983 the State Council decided to ban DDT producing and DDT is no longer used in agriculture any more, but it is still being used in the producing of dicofol, malaria prevention and treatment and a small amount for export. To this end, this paper calculated the usage inventory of China's DDT from 1984 to 2003.

Using sown areas of cotton, apple, citrus, tea and vegetable as surrogate data, usage of dicofol was calculated, then the usage inventory of DDT resulting from dicofol use and DDT applied for malaria control with prefecture resolution was created. From 1984 to 2003, China used 15,312 tons of DDT, including 12,912 tons of DDT resulting from dicofol use and 766 tons applied for malaria control, and the annual average usage of DDT was 766 tons. Spatial distribution of DDT usage has direct relationship with sown areas of cotton, apple, citrus, tea and vegetable, and the DDT usage is concentrated in middle and east China where there is large sown area of cotton and apple, the historical use trend is affected by the weather and acarid harm.

On province scale in China, Shandong province was the largest consumer of DDT, whose usage added up to 2,094 tons. On prefecture scale, Xianyang city was the largest consumer of DDT, adding up to 304 tons. Shandong province used the most of DDT resulting from dicofol among the provinces/regions, adding up to 1,866 tons; and Yunnan Province used the most of DDT applied for malaria control among the prefectures, adding up to 481 tons.