



for further information contact Erik Schmidt or Troy Symes

NCEA, USQ
www.ncea.org.au or
telephone

+ 61 7 4631 1347

STORAGE DAM EVAPORATION CONTROL

CRC Irrigation Futures, National Program for Sustainable Irrigation

Chemical Covers

Chemical covers

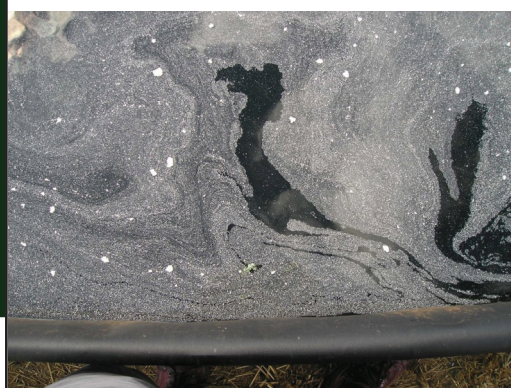
5 - 40% reduction in evaporation demonstrated

Application technology being further developed for large storages

Chemical covers include monolayers such as WaterSavr, a long chain cetyl/steryl alcohol, which forms a one molecule thick film or monolayer on the water surface. Other products such as Aquatain, a silicone based product are not true monolayers but also reduce evaporation.

New generation monolayer products are currently being developed by the CRC for Polymers.

Chemical products need to be applied at frequent intervals (every 2 to 10 days). Monolayers are permeable to oxygen and need to be based on non-toxic environmentally benign products.



With small storages the product can be applied by hand from the bank as the chemical has some self-spreading ability. With larger storages however, some sort of mechanised delivery system is required.



In tests, chemical methods have generally proved to be not as effective as physical methods in reducing evaporation. The performance of the products is affected by wind, wave action, volatilisation, algae and bacteria.



Despite a comparatively low evaporation saving likely, the main advantage of monolayers is the low initial investment cost. Additionally, the product only needs to be applied when it is required, for example when the dam is full and during periods of high evaporation.

With the current price of water, monolayers could provide an economically viable option for large agricultural water storages above ten hectares in size.

They are particularly suited as a low risk investment option for owners of agricultural storages that do not have water in them all year and every year.