2) Another conservation option would be to conserve water for the portion of the growing season when crop demands are the greatest. Determining when a crops needs are greatest can be done by calculating the yield response factor (Doorenbos et al. 1979), were large yield response factors for a plants development stage reflect the importance of providing adequate water. For example, the yield response factors for corn during a growing season (see table below) indicate that **the most crucial time for corn to require watering is during the flowering stage**.

Table 5.1 Yield Response Factors for Corn

Stage of Development of Corn	Yield Response Factor
Pre Flowering Stage (June)	0.4
Flowering Stage (July)	1.5
Post Flowering Stage (August)	0.5

Any additional water should then be used to water the crop during the next stage of development. During seasons where there is not sufficient water to irrigate all plants, then it is best to fully irrigate, only part of the crop.

3) Another conservation strategy is to slowly lower the water table once roots have become firmly established. This strategy is designed to take advantage of the water moisture typically found in lower soil profiles. By gradually lowering the water table at a rate that downward root growth of the crop can keep pace with plants are able to take advantage of water moisture trapped in the lower soil profile. Calculations suggest that draining the soil profile by 46 cm could theoretically extract 230 m^3 of water per hectare (23 mm). Lowering the water table would also reduce the evaporative effects from soils over the drain lines, thus further conserving water.

4) Crop rotation may also be used to alleviate water shortages if crops are rotated in accordance with water management zones. e.g. irrigate corn rather than soybeans.

5.2.4 Non-Growing Seasons

During non growing seasons controlled drainage-subirrigation, storage ponds systems are typically opened allowing full drainage to enhance the trafficability of the fields for the fall harvest. It is often left open during the spring for tilling the soils, spring planting and post-emergent crop care. Drainage water is restricted from running offsite and is processed in the wetland to remove sediment and nutrients (nitrates, phosphorus).

It is also suggested to raise the water table to the surface between December-March when no work is done on the fields. Raising the water table to the surface would produce anaerobic soil