

LEPA and cotton production

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LEPA (Low Energy Precise Application) and irrigated cotton production work well together. The cotton plant's response to this type of irrigation can be attributed to several things specific to this crop. Among these factors is the plant's love for heat, its patience for water, and the flowers that start the fruiting process.

To understand this response, one has to first look at the LEPA method of irrigation. The bubble irrigation mode applies water in the furrow between the rows enabling the plant canopy to stay dry during the application. This is not only more efficient but it also keeps the crop warmer and prevents water damage to the flowers.

Another benefit is the added heat accumulated in the dry portion of the soil surface. The sun warms the soil and the heat is retained by not wetting that soil and cooling it off. LEPA on center pivot systems farmed in a circle keeps every other furrow dry by applying water in an alternating row pattern.

Applying water in such a small area presents a special

management problem. With most types of irrigation, consideration is given to the infiltration rate of the soil and selection of an applicator is made to match that rate. With LEPA, the rate that soil will take water is not as important as the ability of managing the farm soil to hold



LEPA irrigation applies water in every other furrow.



Senninger Irrigation's Quad-Spray can be adjusted to any one of four different application modes.

the water on the surface in close proximity to where it is needed until the soil can absorb it.

This is done by different methods such as furrow dikes or basins to prevent runoff or by deep ripping the center of the rows to increase the uptake of water. Crop residue on the surface of the soil also helps to slow down the movement of water until it can be absorbed.

How successful LEPA application is on a particular farm has a lot to do with the layout of that farm. A farm that is very flat will retain water on the surface better until it can soak in.

A farm that is more hilly or rolling (slopes exceeding 1.0–1.5 per cent) may not be suitable for LEPA at all because the water runs easily. Again, the type of soil on the farm and its ability to take in water is important on these types of fields.

While cotton yields are affected by the amount of irrigation water that can be applied, cotton will wait for irrigation better than some other crops. With LEPA irrigation, the less litres per hectare, the easier the management is on the fields to get the job done. Irrigation rates higher than 0.94 litres per hectare on some fields may cause problems with runoff.

Quad Spray LEPA applicators work well in cotton production. 



Senninger Irrigation's LDN when used with the Bubbler Pad converts to a LEPA device from a spray applicator.