#### Drought prevented floods in Southeastern Pennsylvania

LANCASTER - The drought which has gripped eastern Pennsylvania for the past year, was a blessing as far as preventing flooding from the rains of Hurricane Gloria, according to USDA Soil Conservation Service officials.

Tim Murphy, SCS hydraulic engineer, reports that the extremely dry soil conditions permitted the soil to absorb much of the rainfall in the southeastern part of the state. According to Murphy, rainfall was as heavy as a

once-in-a-100-year storm, but rainfall runoff was once-in-10years or lower in monitored watersheds.

The east branch of the Brandywine Creek watershed had a total of 6.2 inches of rain from Gloria, 3.7 inches of which fell in 12 hours. The rainfall is a once-in-a-70-year storm, but the runoff was only a once-in-two-years amount.

Other southeastern watersheds in the report were the Neshaminy Creek, with total rainfall of 6.5 inches, a once-in-60-years event

with a five-year runoff; the Little Greene-Dreher drainage area in Schuylkill River with 5.0 inches, a once-in-20-years downpour with a one-year runoff; and Kaercher Creek (Berks County) with 5.0 inches of rainfall, or a once-in-20year event with a one-year runoff

Northeastern Pennsylvania was a different story, noted Murphy. The soil was not as dry and runoff rates were higher. The result was that numerous smaller streams flooded, causing millions of dollars in damages.

Five watersheds in the path of Gloria's heavy rains were protected by USDA Soil Con-

most intensive rainfall was in the

Wayne, Pike, and Monroe Counties. Murphy stated that a total of 7.5 inches of rain fell from Gloria and 6.3 inches came in 12 hours. In spite of the heavy rains, runoff only reached the amount expected once every eight years.

Murphy compared this to the June 1972 Hurricane Agnes, which resulted in record flooding over much of the state. "In the case of Agnes, the storm was preceded by six weeks of above normal rainfall and the ground was saturated. Nearly all the rain that fell in Flood Agnes became runoff," Murphy said.

Murphy added that another favorable factor in the recent storm was that rain fell at a uniform rate throughout the storm. 'It was lacking the heavy downpours that make small streams rise rapidly. The evenness of the rain permitted the maximum amount to soak into the ground," said Murphy. "For some areas, Gloria was a good storm."

#### servation Service dams. Dams on the Brodhead Creek, Martins Creek, Greene-Dreher, tributaries (Continued from Page 3) of the Lackawaxen River, and Neshaminy Creek prevented over Based on his findings, Ritter one million dollars in flood concludes: damages, added Stephen Kem- For most years, full season merle, SCS economist. irrigation of soybeans will not Of the nine monitored waterincrease yields significantly over sheds in eastern Pennsylvania, the

### Soybean irrigation

one year was there a marked difference in yield between the partial and full irrigation treat-

Using the data collected, he developed a water use curve for full season soybeans and average planting dates in southern Delaware. Farmers are now advised to use this curve as a guide to soybean irrigation scheduling in

While it is not profitable to invest in an irrigation system for soybeans alone on Delmarva, the engineer found that producers can profit by irrigating soybeans in a corn/soybean rotation on sandy loam or loamy sand soils if a system is bought for irrigating

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- irrigation from flowering to maturity.
- Irrigating some soybean varieties too much during early vegetative growth stages may cause excessive lodging.
- The peak water use rate for soybeans on the Delmarva peninsula is approximately 0.3 inch per day.
- A well used to irrigate soybeans on Delmarva must deliver seven to eight gallons of water per minute per acre.

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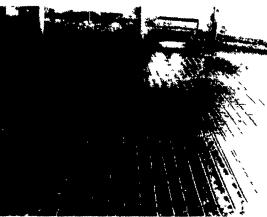
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