CROPLAND IRRIGATION EXPERT PANEL

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CROPLAND IRRIGATION CHARGE

- WATER QUALITY BENEFITS ON IRRIGATED CROPLAND
- ADDRESS BENEFITS OF NITROGEN AND PHOSPHORUS IF EXIST BASED UPON RESEARCH
- DETERMINE MAIN CROPS IRRIGATED
- REFINE CURRENT DEFINITION OF IRRIGATION BMP
- DETERMINE OF SOIL MOISTURE MANAGEMENT HAS BENEFITS
- DOES FERTIGATION AND APPLICATION OF ORGANIC SOURCES INFLUENCE WATER QUALITY
- WHAT IS BASELINE FOR IRRIGATION OPERATING SYSTEMS
- ARE THERE REGIONAL VARIATIONS IN IRRIGATION PRACTICES WORTH NOTING

CROPLAND IRRIGATION THINGS LEARNED

- ONE HUNDRED TWENTY PEER REVIEWED RESEARCH PAPERS WERE REVIEWED MOST OUTSIDE OF THE BAY
- RAINFALL IS UNPREDICTABLE IN THE CHESAPEAKE BAY WATERSHED
- IN THE BAY WATERSHED ONLY 0.3% OF TOTAL WATER WITHDRAWALS ARE FOR IRRIGATION
- SOILS VARY WIDELY FROM LOAMY SANDS WITH LOW WATER HOLDING CAPABILITIES TO CLAYS WITH HIGH RUNOFF POTENTIAL
- INTENTION OF IRRIGATION IS TO MAXIMIZE CROP YIELD
- AVAILABLE RESEARCH DEALING WITH WATER QUALITY ISSUES ON IRRIGATED LAND IS VERY LIMITED
- SOME RESEARCH NOT APPLICABLE DUE TO DIFFERENT CLIMATIC CONDITIONS
- SOME RESEARCH LOCALLY ON GOING BUT NOT PUBLISHED
- LIMITED RESEARCH ON IRRIGATION SYSTEMS OTHER THAN CENTER PIVOT.
- LIMITED RESEARCH ON CROPS OTHER THAN CORN

CROPLAND IRRIGATION THINGS LEARNED

- ALL BAY STATES HAVE RECOMMENDATIONS FOR NITROGEN ON IRRIGATED VERSES NON-IRRIGATED LANDS
- CURRENT RESEARCH DOES NOT SUFFICIENTLY SHOW A WATER QUALITY BENEFIT ASSOCIATED WITH CROPLAND IRRIGATION
- ALL ASPECTS OF IRRIGATION INFLUENCE THE AMOUNT OF NITROGEN LOSS
- MUCH OF RESEARCH COMES FROM MID-WESTERN STATES OR MORE ARID AREAS, EVEN SWITZERLAND
- MOST RESEARCH AVAILABLE ADDRESSES ENGINEERING EFFICIENCIES OF DIFFERENT TYPES OF SYSTEMS INSTEAD OF WATER QUALITY

PANEL DETERMINATIONS

- PAST EXPERT PANELS EVALUATED EFFICIENCIES BASED UPON THE REDUCTION IN NUTRIENT LOSSES PAST THE ROOT ZONE
- NOT ENOUGH RESEARCH AVAILABLE TO INDICATE THAT A REDUCTION IN NITROGEN LOSSES ON IRRIGATED CORN
- BASELINE CONDITIONS FOR PREDICTING CORN YIELDS ARE N DRYLAND
- NO INFORMATION AVAILABLE ON PHOSPHORUS AND SEDIMENT LOSSES OF IRRIGATED LANDS
- GREATER LOSS OF NITROGEN TRANSPORTED PAST THE ROOT ZONE WAS FOUND ON IRRIGATED LANDS VERSES NON-IRRIGATED LANDS WHICH COULD RESULT IN A NEGATIVE EFFICIENCY

PANEL RECOMMENDATIONS

- FUTURE RESEARCH ON UNDERSTANDING PHOSPHORUS BEHAVIOR
- HOW DO ORGANIC APPLICATIONS ON IRRIGATED LANDS EFFECT P LOSSES AND/OR USE
- INTERRELATIONSHIPS OF GRAIN PRODUCTION WITH TILLED VS NO-TILL LANDS
- ADDITIONAL RESEARCH IN THE FUTURE TO ADDRESS NITROGEN LOSS REDUCTIONS AND WATER QUALITY