Incorporating Bioenergy in Sustainable Landscape Designs

Bridging scales and tools in the field, watershed, county, and region

AgSolver, Inc
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Identifying the Opportunities: Profitability

[Diagrams and graphs showing various profit levels across different areas.]
### Identifying the Opportunities: Profitability

<table>
<thead>
<tr>
<th>Summary</th>
<th>50 Year Yld Ave: 170 bu/acre</th>
<th>50 Year Yld STD: 38 bu/acre</th>
<th>Profit Average: $47 /acre</th>
<th>Profit STD: $235 /acre</th>
</tr>
</thead>
</table>

**50 Year Profit Average ($/acre)**
- 933 - 784
- 784 - 576
- 576 - 404
- 404 - 195
- 195 - 76
- 76 - 11
- 11 - 101
- 101 - 168
- 168 - 223
- 223 - 611

**Summary**
- Discontinue ops on areas with ave loss > $250/acre with risk adjusted ins prem’s and int rates
- Profit Average: $76 /acre
- Profit STD: $124 /acre
Identifying the Opportunities: Profitability

New production at loss > $200/acre with adjusted ins prem’s and int rates

50 Year Profit Average
Adjusted Ins Prem - Int Rates
New Biomass at (200)
($) per acre
- (200) - (171)
- (171) - (107)
- (107) - (48)
- (48) - 33
- 33 - 125
- 125 - 167
- 167 - 249
- 249 - 292
- 292 - 376
- 376 - 637

Summary

New production at loss > $200/acre with adjusted ins prem’s and int rates

| Profit Average: | $105 | $/acre |
| Profit STD:     | $149 | $/acre |
| Percentage of Field Profitable: | 79% |
Identifying the Opportunities: Profitability

Profitability
($ / acre)

-550 - -250
-250 - -150
-150 - -100
-100 - -50
-50 - 0
0 - 50
50 - 200
Connecting Environmental Performance: Solving the Mass Balance

Cons. Outputs
- SCI
- SCI-OM
- SCI-FO
- SCI-ER
- Water Ero
- Wind Ero

C Balance
- c_rem_grn
- c_rem_biomass
- c_loss_ero
- ann_soil_c_delta
- co2_flux
- c_delta

N Balance
- n_litter_in
- n_rem_grn
- n_rem_biomass
- crop_n_uptake
- n_loss_ero
- n_app
- n_precip
- n_delta

K Balance
- k_rem_grn
- k_rem_biomass
- k_loss_ero
- k_app

Water Ero
- p_rem_grn
- p_loss_ero
- p_app

Wind Ero
- n2o_flux

Turning data into decisions for agriculture™
Large Spatial Scale Implementation
Large Spatial Scale Implementation

Newton County, IN
~50% Stover Removal

Rye Cover Crop

No Cover Crop

NO3 Leaching
lbs N/acre/year
0.0 - 19.8
19.8 - 37.4
37.4 - 62.0
62.0 - 75.2
75.2 - 295.0
Questions?