European Corn Borer Threshold Calculator for Non-Bt Corn Hybrids:

|  |
| --- |
| Univoltine Strain (for areas where there is one generation of ECB per year) |
| A | % shot-holed plants | \_\_\_\_\_ | = | plants with shot-holes ÷ total plants checked |
| Unfurl one of the shot-holed plants from each location and look for larvae. |
| B | Larvae per plant | \_\_\_\_\_ | = | number of live larvae per unfurled plant x (A)% shot-holed plants ÷ 100 |
| Example – 25 shot-holed plants and 1.5 larvae per unfurled plant |
| larvae per plant | 0.38 | = | 1.5 x 25 ÷ 100 |
| A yield loss of 5% per live larvae is estimated.1 Therefore: |
| C | Potential % yield loss | \_\_\_\_\_ | = | (B) x 5 ÷ 100 |
| D | Potential $ loss | \_\_\_\_\_ | = | (C) potential % yield loss x expected yield t/ha (bu/acre) x value $/t ($/bu) |
| A 80% effectiveness of a pesticide treatment is estimated.1 Therefore: |
| E | $ preventable loss | \_\_\_\_\_ | = | (D) potential $ loss x % effectiveness of pesticide treatment |
| F | Treatment cost | \_\_\_\_\_ | = | pesticide cost + application cost |
| G | Gain (+) or loss (–) if treatment is applied | \_\_\_\_\_ | = | (E) – (F) |
| 1 Use another estimated value if desired. |

|  |
| --- |
| Bivoltine Strain (for areas where there are two generations of ECB per year) |
| A | Larvae per plant | \_\_\_\_\_ | = | number of egg masses/plant x 2 borer / egg mass1 |
| (cumulative counts taken 7 days apart) |  |  |  |
| B | % yield loss | \_\_\_\_\_ | = | (A) larvae / plant x 4% yield loss per larvae/plant2 |
| C | Yield loss t/ha (bu/acre) | \_\_\_\_\_ | = | % yield loss x expected yield t/ha (bu/acre) |
| D | $ loss/ha (acre) | \_\_\_\_\_ | = | (C) yield loss t/ha (or bu/acre) x expected $ price per bu |
| E | Preventable loss per ha (acre) | \_\_\_\_\_ | = | (D) $ loss per ha (or acre) x 80% control3 |
| F | Treatment Cost | \_\_\_\_\_ | = | pesticide cost + application cost |
| G | Gain (+) or loss (–) if treatment is applied | \_\_\_\_\_ | = | (E) – (F) |
| 1 Assumes a survival rate of 2 larvae per egg mass. This may vary with weather and egg mass size.2 Use a 3% loss per borer per plant if infestation occurs after silks are brown. The economic benefit of treatment declines rapidly if infestations occur after the blister stage3 80% is an average. Use another estimated value if desired. |