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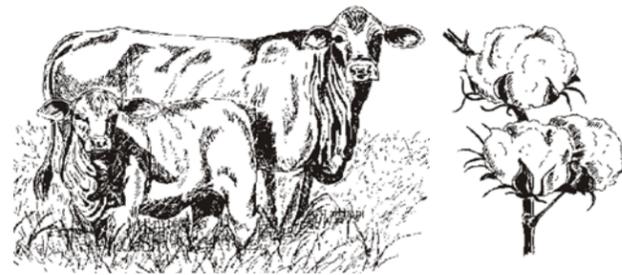
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The Texas A&M University System, U.S. Department of Agriculture, and the County Commissioners Courts of Texas Cooperating.

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**Agriculture & Natural Resources**  
**Refugio County**  
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**Phone: (361) 526-2825**  
**Fax: (361) 526-4340**



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# THE REFUGIO COUNTY

## AGRICULTURE CONNECTION

<http://refugio.agrilife.org/>

November-December 2013

### Reducing the Risk of Ground Water and Coastal Waterway Contamination by improving Pesticide Storage and Handling

B.L. Harris, D.W. Hoffman and F.J. Mazac, Jr.

#### *Pesticide Handling Overview*

Pesticides play an important role in agriculture. They have increased farm production and enabled farmers to manage more acres with less labor. Taking voluntary action to prevent pesticide contamination of ground water will help ensure that pesticides remain available for responsible use.

Pesticides work by interfering with the life processes of plants and insects. Some pesticides are also toxic to humans. If a pesticide enters a water supply in large quantities, which could happen with spills or back-siphonage accidents, acute health effects (toxic effects apparent after only a short period of exposure) could occur, depending on the toxicity of the pesticide. Contaminated ground water used for drinking water supplies may cause chronic exposure (prolonged or repeated exposure to low doses of toxic substances). Chronic exposure may be hazardous to humans and livestock.

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107 East Roca Street  
Refugio, Texas 78377

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- **Ask the County Extension Agent**

**Grain Sorghum Seeding Rate Trial**  
**Stephen Biles, IPM Agent and Michael Donalson, CEA**

The following are results of a Grain Sorghum Seeding Rate Trial that was conducted this year in Bonnie View, TX with the cooperation from Venture Farms. This trial focused on investigating any difference between plant population, # of heads per acre, and harvest data. The conclusion from this particular study was that there was no difference between seeding rates for pounds per acre.

However, while these trials give us some indication of how seeding rate affects the profitability of sorghum production, planting decisions should not be made using only these trials. Planting rate trials must be repeated for several years to determine ideal seeding rates over different environmental conditions. We plan to continue this trial in the future. We are also unsure how hybrid selection interacts with seeding rate. This may or may not have an impact on yield potential of different plant populations.

10/11/2013 (13GS01)

AOV Means Table Pa

**Texas A&M AgriLife Extension Service**

| Sorghum Seeding Rate Evaluation Bonnieview, TX |             |                             |             |                               |           |             |           |            |          |
|--|-------------|-----------------------------|-------------|-------------------------------|-----------|-------------|-----------|------------|----------|
| Trial ID: 13GS01                               |             | Location: Refugio County    |             | Trial Year: 2013              |           |             |           |            |          |
| Protocol ID: 13GS01                            |             | Investigator: Stephen Biles |             | Study Director: Stephen Biles |           |             |           |            |          |
| Project ID:                                    |             | Sponsor Contact:            |             |                               |           |             |           |            |          |
| Character Rated                                | Plts/0.002A | Plts/A                      | Heds/0.002A | Heds/A                        | Heads/Plt | Heds/0.002A | Lb/Plot   | % Moisture | Lbs/Acre |
| Rating Date                                    | 3/27/2013   | 3/27/2013                   | 6/11/2013   | 6/11/2013                     |           | 7/3/2013    | 7/9/2013  | 7/9/2013   | 7/9/2013 |
| Rating Data Type                               | DENSTY      | DENSTY                      | DENSTY      | DENSTY                        |           | DENSTY      | YIELD     | MOICON     | YIELD    |
| Rating Unit                                    | /13.1 ft    | /acre                       | /13.1 ft    | /acre                         |           | /13.1 ft    | lb/plot   | percent    | lb/ac    |
| Assessed By                                    | Biles, S    | Biles, S                    | Biles, S    | Biles, S                      |           | Biles, S    | Biles, S  |            | Biles, S |
| ARM Action Codes                               |             | T1                          |             | T2                            | AL T3     |             |           |            | TY4      |
| Number of Subsamples                           | 4           | 4                           | 4           | 4                             |           | 4           | 1         | 1          | 1        |
| Number of Decimals                             | 1           | 1                           | 1           | 1                             | 4         | 1           | 2         |            | 1        |
| Trt Treatment No. Name                         | 1           | 2                           | 3           | 4                             | 5         | 6           | 7         | 8          | 9        |
| 1 35000 Seed per Acre                          | 16.0 e      | 32000.0 e                   | 23.3 c      | 46666.7 c                     | 1.4761 a  | 23.8 b      | 5333.58 a | 15.20 a    | 3181.6 a |
| 2 45000 Seed per Acre                          | 19.3 d      | 38666.7 d                   | 22.8 c      | 45500.0 c                     | 1.2055 a  | 23.7 b      | 5415.12 a | 15.96 a    | 3202.6 a |
| 3 55000 Seed per Acre                          | 23.3 c      | 46500.0 c                   | 26.3 bc     | 52500.0 bc                    | 1.1455 a  | 24.9 b      | 5837.04 a | 15.90 a    | 3454.8 a |
| 4 65000 Seed per Acre                          | 27.1 b      | 54166.7 b                   | 29.8 ab     | 59666.7 ab                    | 1.1062 a  | 31.3 a      | 5812.02 a | 15.93 a    | 3439.1 a |
| 5 75000 Seed per Acre                          | 31.8 a      | 63666.7 a                   | 32.0 a      | 64000.0 a                     | 1.0239 a  | 32.8 a      | 5778.90 a | 16.07 a    | 3412.8 a |
| LSD (P=.05)                                    | 2.00        | 4005.19                     | 5.75        | 11497.29                      | 0.07913t  | 6.22        | 539.698   | 0.944      | 334.87   |
| Standard Deviation                             | 1.06        | 2127.20                     | 3.05        | 6106.35                       | 0.04203t  | 3.30        | 279.489   | 0.489      | 173.42   |
| CV   | 4.53        | 4.53                        | 11.38       | 11.38                         | 12.37     | 12.11       | 4.96      | 3.09       | 5.19     |
| Replicate F                                    | 11.967      | 11.967                      | 4.063       | 4.063                         | 6.092     | 0.649       | 18.807    | 2.962      | 18.849   |
| Replicate Prob(F)                              | 0.0039      | 0.0039                      | 0.0606      | 0.0606                        | 0.0247    | 0.5480      | 0.0015    | 0.1169     | 0.0015   |
| Treatment F                                    | 103.398     | 103.398                     | 5.226       | 5.226                         | 1.864     | 5.382       | 2.228     | 1.519      | 1.802    |
| Treatment Prob(F)                              | 0.0001      | 0.0001                      | 0.0228      | 0.0228                        | 0.2103    | 0.0211      | 0.1671    | 0.2948     | 0.2330   |

## Soil Testing

Michael Donalson, CEA-Ag/NR



It's time to start thinking about soil tests. Soil tests can be used to estimate the kinds and amounts of soil nutrients available to plants. They also can be used as aids in determining fertilizer needs. Properly conducted soil sampling and testing can be cost-effective indicators of the types and amounts of fertilizer and lime needed to improve crop yield.

Soil samples can not only save you money, but it can help you as not only a farmer or rancher but as a

Conservationist. Much like hunters and fisherman and stewards of their resources, we too must be on the proactive side and protect our resources. We must be mindful of the soil and how too much extra nutrients and pesticides we put into it. Excess can runoff or leach into our Coastal Waterways, which many of us farm or ranch near.

CALL FOR ADDRESSES AND EMAIL

If anyone knows of someone who does not receive this newsletter, please let us know!



Also, if you would like to receive this newsletter by email, let us know!

REFUGIO COUNTY EXTENSION OFFICE 361-526-2825.

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## Tri County CEU Day

**Wednesday**  
**December 11, 2013**  
**Registration: 7am-7:30am**

**Location: Refugio County Community Center**  
**305 Swift St.**  
**Refugio, TX**  
**Fee: \$10 per CEU hour**

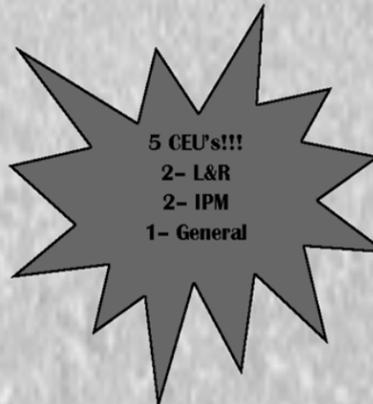
**7:30- Laws and Regulations (L/R)**  
**8:30- Pesticide Contamination into Coastal Waterways (IPM)**  
**9:30-Sprayer Calibration (Gen)**  
**10:30- Chemical Control Update for Weed and Brush (IPM)**  
**11:30- Water Law (L/R)**

**For more information:**  
**Texas A&M AgriLife Extension**

|                       |                           |
|-----------------------|---------------------------|
| <b>Refugio County</b> | <b>361-526-2825</b>       |
| <b>Bee County</b>     | <b>361-621-1550 x8158</b> |
| <b>Goliad County</b>  | <b>361-645-8204</b>       |

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**5 CEU's!!!**  
**2- L&R**  
**2- IPM**  
**1- General**

*Continued from Page 1*

Normally pesticides are not found in water supplies in high enough concentrations to cause acute health effects, which can include chemical burns, nausea and convulsions. Instead, pesticides usually occur in trace amounts, and the concern is for the chronic health problems that may result from prolonged exposure.

Proper pesticide management on your property is an important step toward preventing ground water contamination. This guide will provide information about the following areas: 1. Pesticide storage, 2. Mixing and loading practices, 3. Spill clean up, 4. Container disposal, 5. Other management practices, 6. Evaluation table, and 7. Pesticide Leachability Chart.

### ***Pesticide Storage***

If stored in a secure, properly constructed location, pesticides pose little danger to ground water or the coastal waterways. Common sense suggests keeping pesticides out of the way of activities that might knock over a jug or rip open a bag. Short-term storage (during a season) poses a lower risk than year-round storage, but storage for any length of time can be a risk to ground water.

### ***Mixing and Loading Practices***

Ground water contamination can result even from small spills in the mixing and loading area. Small quantities spilled regularly in the same place can go unnoticed, but the chemicals can build up in the soil and eventually reach ground water. By mixing and loading on an impermeable concrete surface most spilled pesticides can be recovered and reused.

### ***Container Disposal***

Unwashed and improperly stored containers can lead to ground water contamination if chemical residues leak onto the ground. Some guidelines that can help prevent this problem include the following:

- Use returnable containers and mini bulks, and take them back to the dealer as often as possible.
- Pressure-rinse or triple-rinse containers immediately after use, since residue can be difficult to remove after it dries. Pour the rinse water into the spray tank. Puncture containers and store them in a covered area until you take them to a permitted landfill.
- Recycle plastic and metal containers whenever possible.
- Shake out bags, bind or wrap them to minimize dust, and take them to a permitted landfill.
- Do not bury or burn pesticide containers or bags on private property.

To help with proper pesticide container disposal in Refugio County, collection days have been set up throughout the year with US Ag Recycling, who will come on designated days to collect and recycle containers that are triple-rinsed, have no caps, and have no labels or books on them. They will take any container 55 gallons and smaller. The next scheduled date will be during the 2014 Refugio County Crop Tour.

### ***Other Management Practices***

Reducing pesticide waste makes financial as well as environmental sense, but it means more than just reducing spills. It also means not buying more than you need to apply, keeping records of what is on hand, and using older products first.

- Buying only what is needed makes long term storage unnecessary. Storing pesticides during cold weather can make some of them useless.
- Record keeping may seem unrelated to ground water contamination, but knowing what pesticides have been used in the past and what is currently on hand allows for better purchasing decisions. Keep records of past field application rates and their effectiveness. Along with field records, add information such as the manufacturer's name and address, chemical types and handling precautions. This information can be important if you must respond quickly to an accident.
- Using older products first keeps any inventory current and effective. Before using chemicals that have been stored for a few years, though, check with your county Extension agent about possible restrictions on their use.

**Did you miss a program or want to watch a video to learn something new?**



**Check out the Agriculture Videos on our Website at:**

**<http://refugio.agrilife.org/videos/agriculture-videos/>**