



Reabe Spraying Service
A Family Tradition Since 1945
est. 1979



**Dairyland
Aviation**

AERIAL SEEDING, SPRAYING & FERTILIZING

WE HAVE FOUND THE SECRET FOR ESTABLISHING “HIP HIGH” COVER CROPS LATE FALL



TOPICS OF PRESENTATION

- Proper aircraft setup for uniformity
- Seed species selection for aerial seeding
- Considerations for successful stands

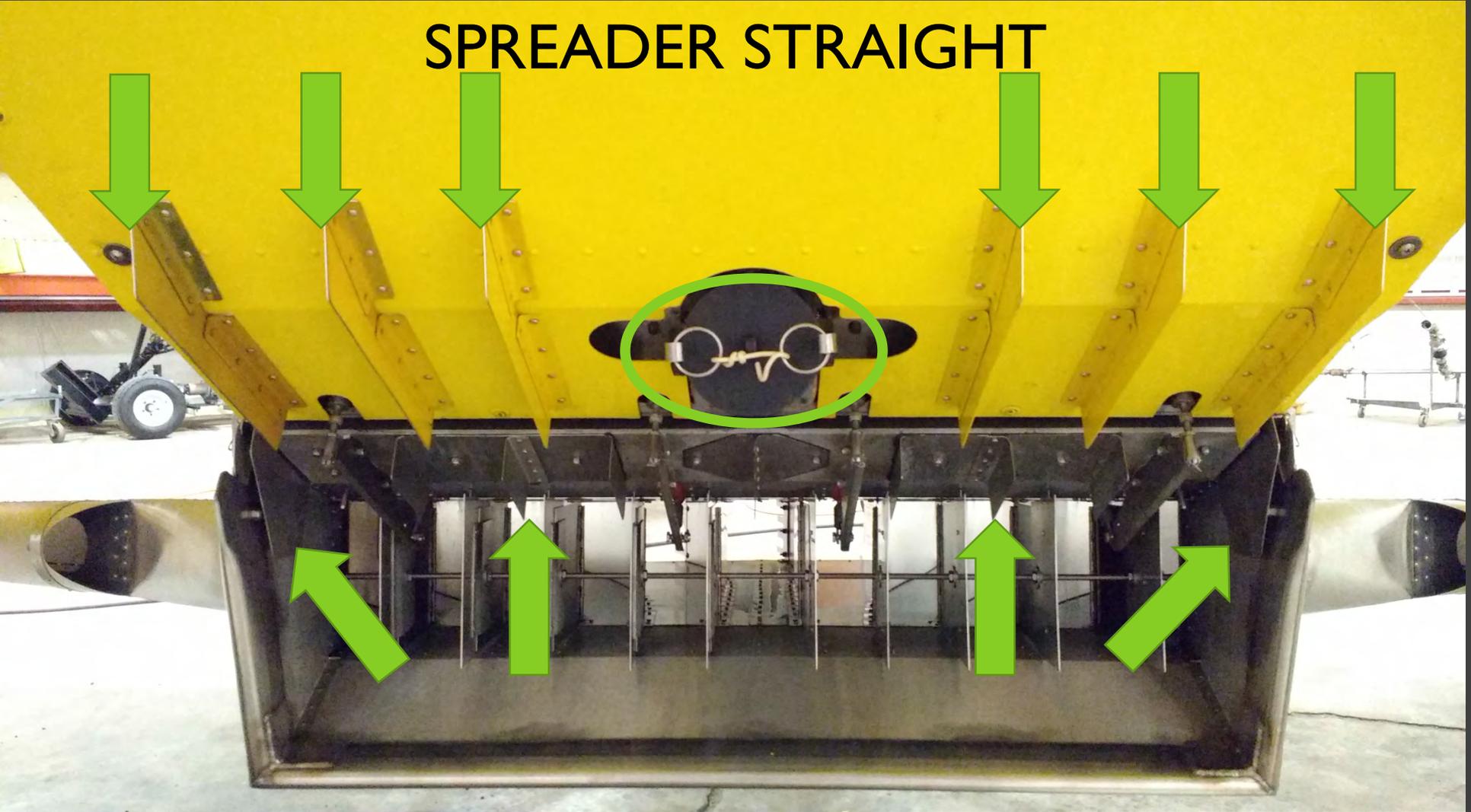
AIRPLANE SETUP: IT ALL STARTS WITH A LEVEL GATE!!

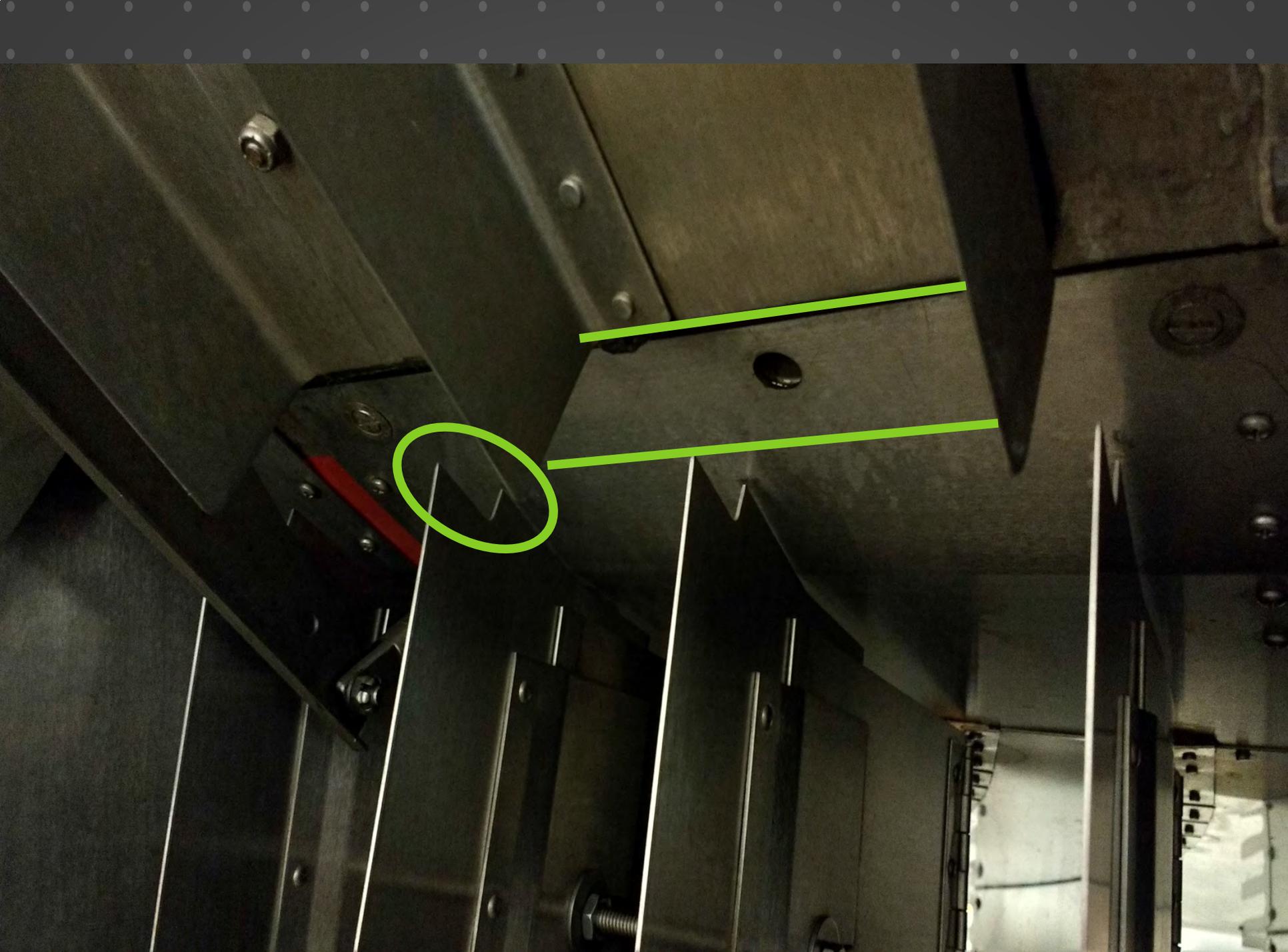


OUTLET OF HOPPER NEEDS TO BE FREE OF BUILT IN OBSTRUCTIONS FOR EVEN FLOW



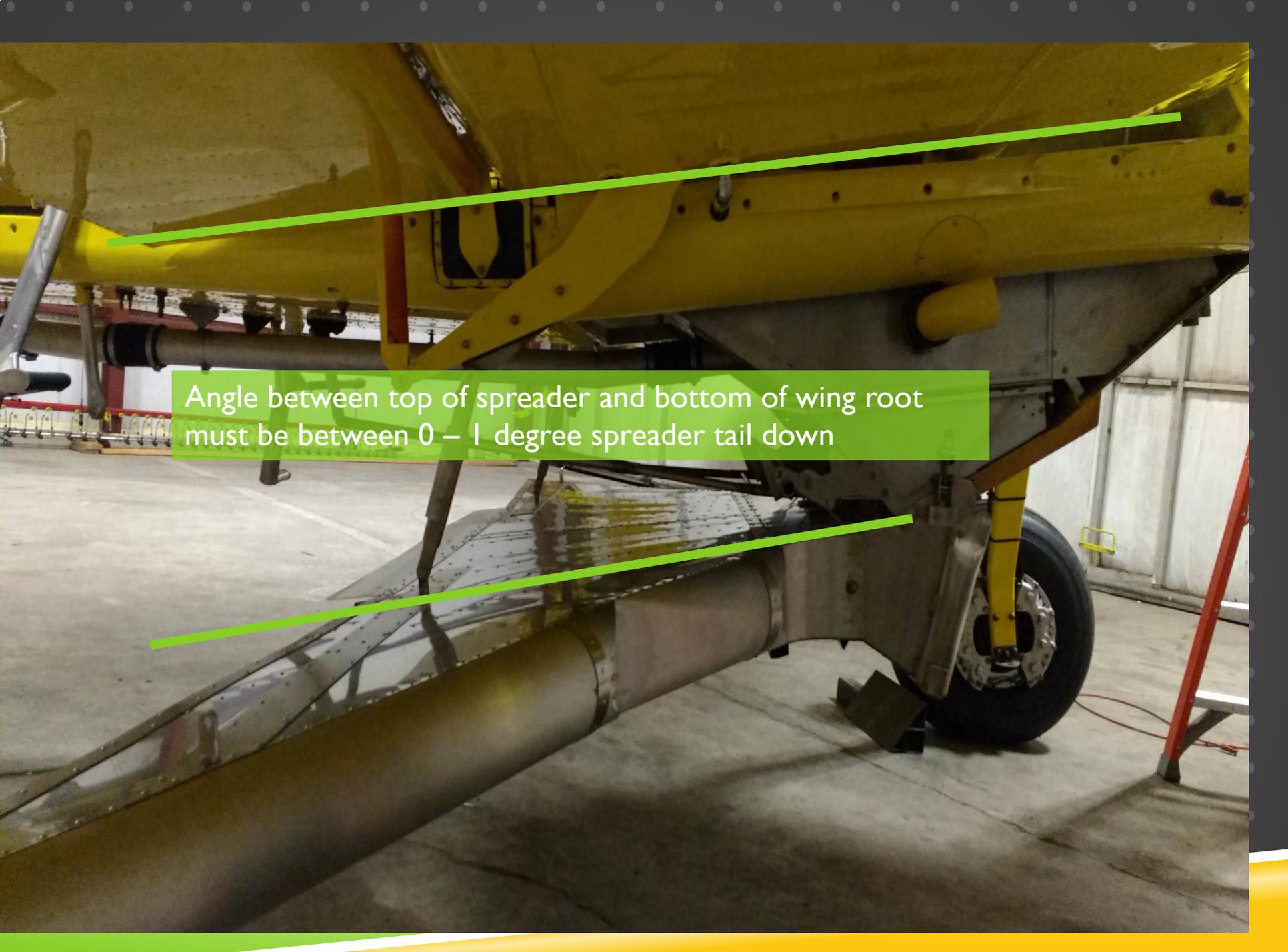
AIRFLOW NEEDS TO ENTER THE SPREADER STRAIGHT





These gaps must be sealed to prevent material from bypassing spreader
Use two layers of engine baffle material to fill these gaps





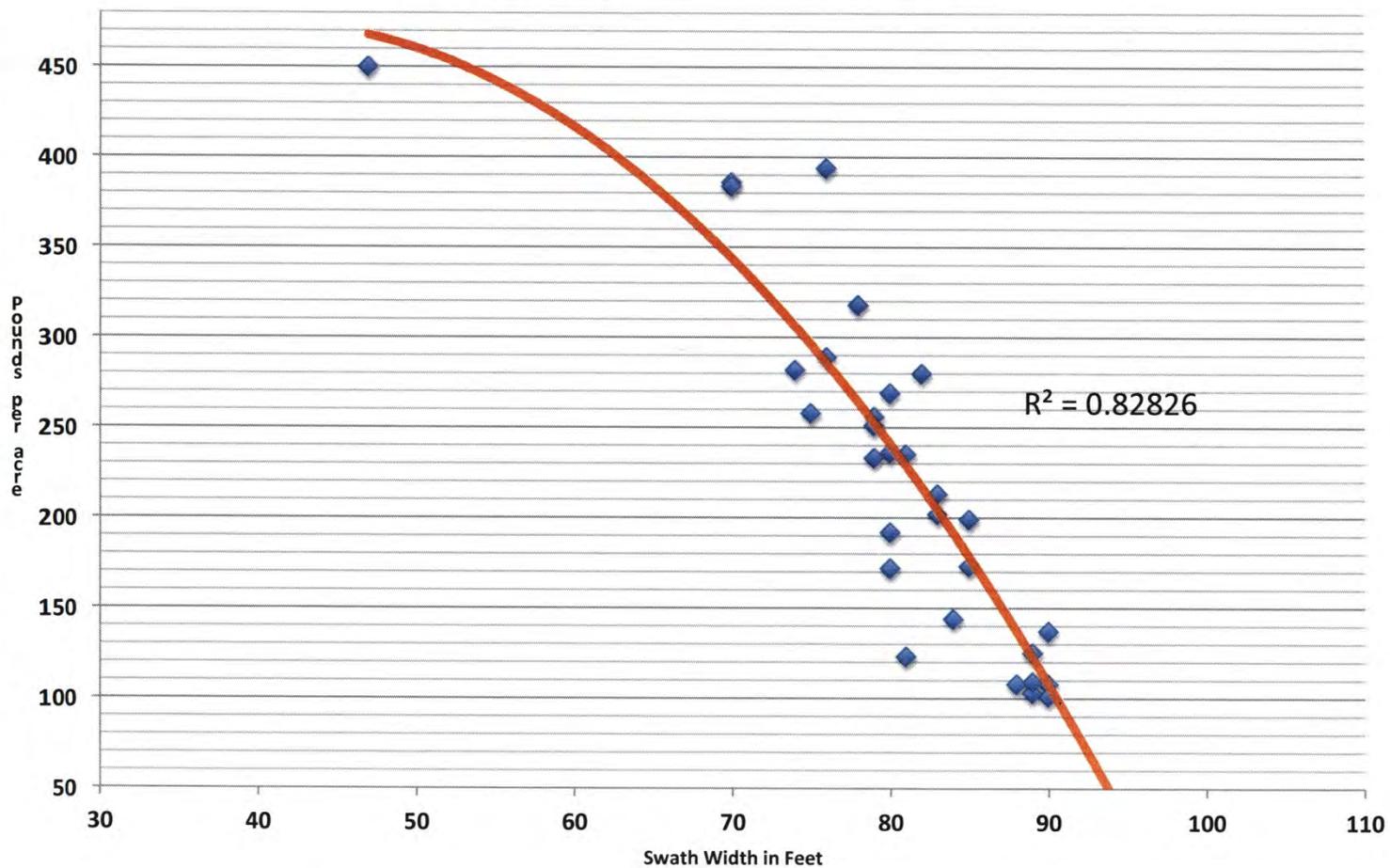
Angle between top of spreader and bottom of wing root must be between 0 – 1 degree spreader tail down



TIME TO TEST!!



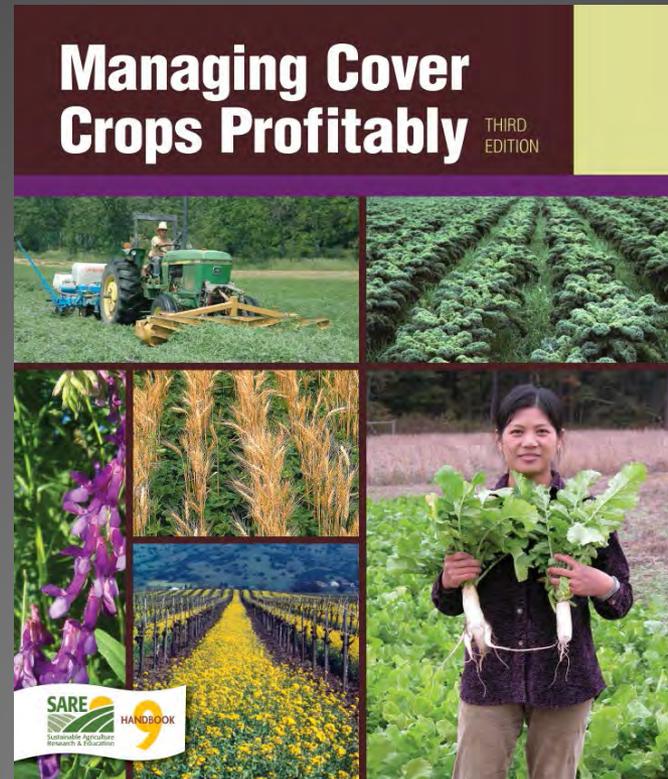
AT802/602_23537_Urea SW Predictions



MY SWATH WIDTH RULES OF THUMB

- ▶ When spreading a seed mix use the swath width of the narrowest seed
- ▶ Reduce swath width 20% from urea results for small grain seed (Annual rye grass can only be spread about 50 feet and shouldn't be spread in winds greater than 7mph)
- ▶ Reduce swath width 1 foot for each mph wind is above 7mph
- ▶ Offset swath 3 feet into wind for every mile per hour of crosswind component
- ▶ WHEN IN DOUBT PATTERN TEST!!

SEED SPECIES SELECTION, WHAT WILL WORK IN MY AREA??



STEP 1: FIGURE OUT WHAT SEEDS WORK WHEN BROADCAST

Species	Depth
Annual ryegrass	0- $\frac{1}{2}$
Barley	$\frac{3}{4}$ -2
Oats	$\frac{1}{2}$ -1 $\frac{1}{2}$
Rye	$\frac{3}{4}$ -2
Wheat	$\frac{1}{2}$ -1 $\frac{1}{2}$
Buckwheat	$\frac{1}{2}$ -1 $\frac{1}{2}$
Sorghum-sudangrass	$\frac{1}{2}$ -1 $\frac{1}{2}$

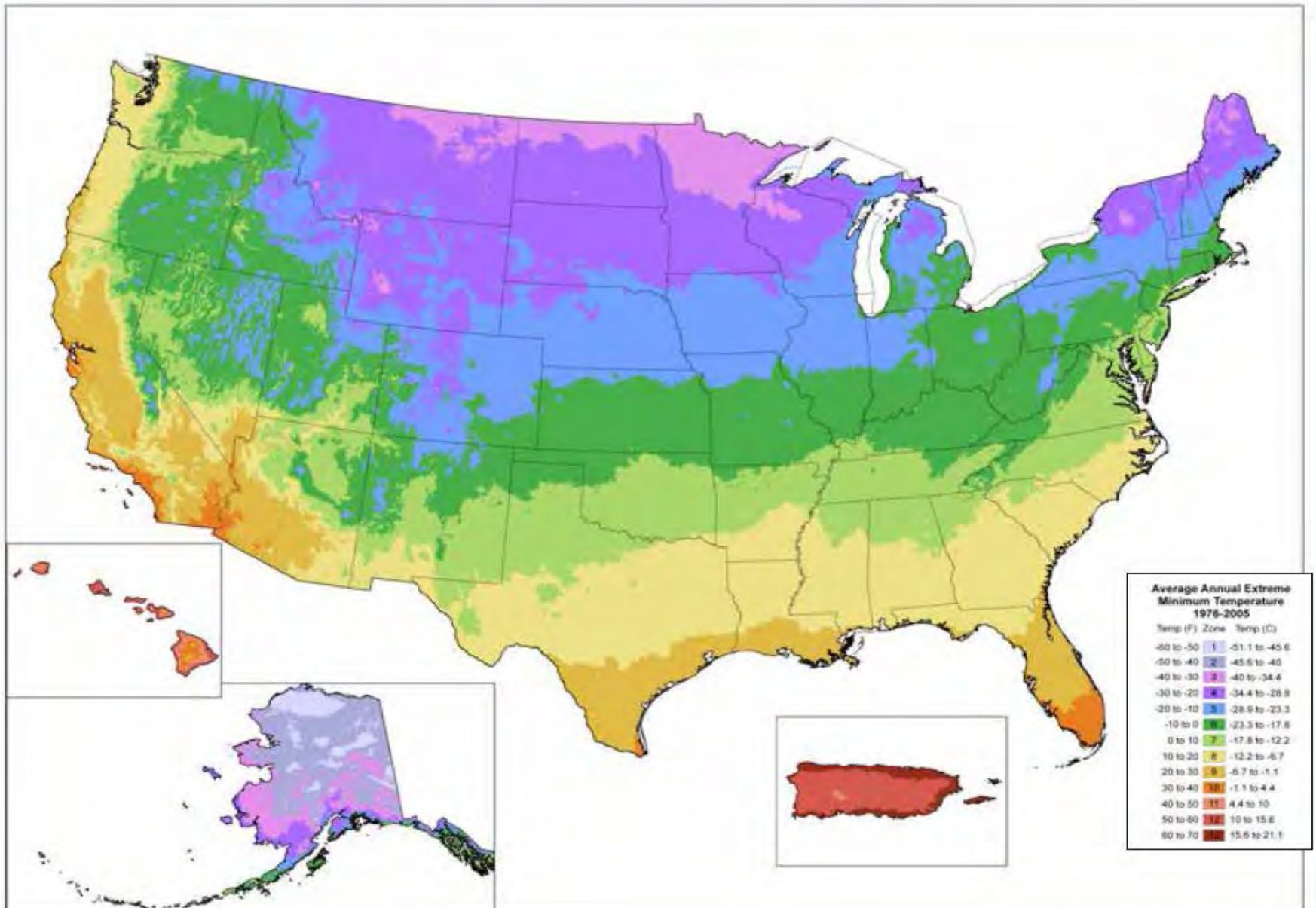
BRASSICAS

Mustards	$\frac{1}{4}$ - $\frac{3}{4}$
Radish	$\frac{1}{4}$ - $\frac{1}{2}$
Rapeseed	$\frac{1}{4}$ - $\frac{3}{4}$

LEGUMES

Berseem clover	$\frac{1}{4}$ - $\frac{1}{2}$
Cowpeas	1-1 $\frac{1}{2}$
Crimson clover	$\frac{1}{4}$ - $\frac{1}{2}$
Field peas	1 $\frac{1}{2}$ -3
Hairy vetch	$\frac{1}{2}$ -1 $\frac{1}{2}$
Medics	$\frac{1}{4}$ - $\frac{1}{2}$
Red clover	$\frac{1}{4}$ - $\frac{1}{2}$
Subterranean clover	$\frac{1}{4}$ - $\frac{1}{2}$
Sweetclovers	$\frac{1}{4}$ -1.0
White clover	$\frac{1}{4}$ - $\frac{1}{2}$
Woollypod vetch	$\frac{1}{2}$ -1

USDA Plant Hardiness Zone Map



STEP 3: FIGURE OUT WHAT RATE TO APPLY THE SEED



	Species	Depth	Seeding Rate				
			Drilled		Broadcast		oz./100 ft ²
			lb/A	bu/A	lb/A	bu/A	
NONLEGUMES	Annual ryegrass	0-1/2	10-20	.4-.8	20-30	.8-1.25	1
	Barley	3/4-2	50-100	1-2	80-125	1.6-2.5	3-5
	Oats	1/2-1 1/2	80-110	2.5-3.5	110-140	3.5-4.5	4-6
	Rye	3/4-2	60-120	1-2	90-160	1.5-3.0	4-6
	Wheat	1/2-1 1/2	60-120	1-2	60-150	1-2.5	3-6
	Buckwheat	1/2-1 1/2	48-70	1-1.4	50-90	1.2-1.5	3-4
	Sorghum-sudangrass	1/2-1 1/2	35	1	40-50	1-1.25	2

STEP 4: CONFIRM SEED WILL GET TO THE SOIL



STEP 5: APPLY THE SEED AT THE CORRECT TIME

- ▶ The cover crop will need access to sunlight after it germinates
- ▶ Rule of thumb: The cover crop needs sunlight two weeks after germination



2 bushels spring
barley flown on
09/06/2013
Into Silage Corn

Photo taken
09/25/2013

Photo taken
09/27/13

A photograph of a cornfield. In the foreground, rows of harvested corn stalks are visible, showing their roots and lower stems. The stalks are cut at the base, and some are lying on the ground. The soil is dark and appears to be a mix of loam and clay. In the background, a tall, standing corn crop is visible, extending to the horizon under a clear blue sky. The overall scene is a typical agricultural landscape.

Photo 09/27/13
silage harvested on
09/18/2013
The plants are shorter
and have much
healthier roots

Photo taken
10/29/2013



OK, LETS REVIEW WHAT WE'VE DONE SO FAR

- ▶ We set up our aircraft correctly
- ▶ We picked the correct seed and rate
- ▶ We put the seed on at the correct time
- ▶ What could go wrong, right?

GRAIN CORN RESIDUE



GRAIN CORN HARVEST DATE HAS SIGNIFICANT IMPACT ON SUCCESS

Strip harvested 11/14/14
for an insurance check

Rest of field harvested
10/06/14

30#'s cereal
rye flown on
09/10/14
across entire
field. Photo
taken
04/06/2015

Tram Lines





WHAT DO WE DO ABOUT SLUGS?



OBVIOUSLY THIS ONLY WORKS IF
THERE IS A LOT OF RAIN, RIGHT?

Seeded 09/14/2013
Sweet corn harvested
09/22/2013
2 bushel spring barley
Photo taken 10/29/2013



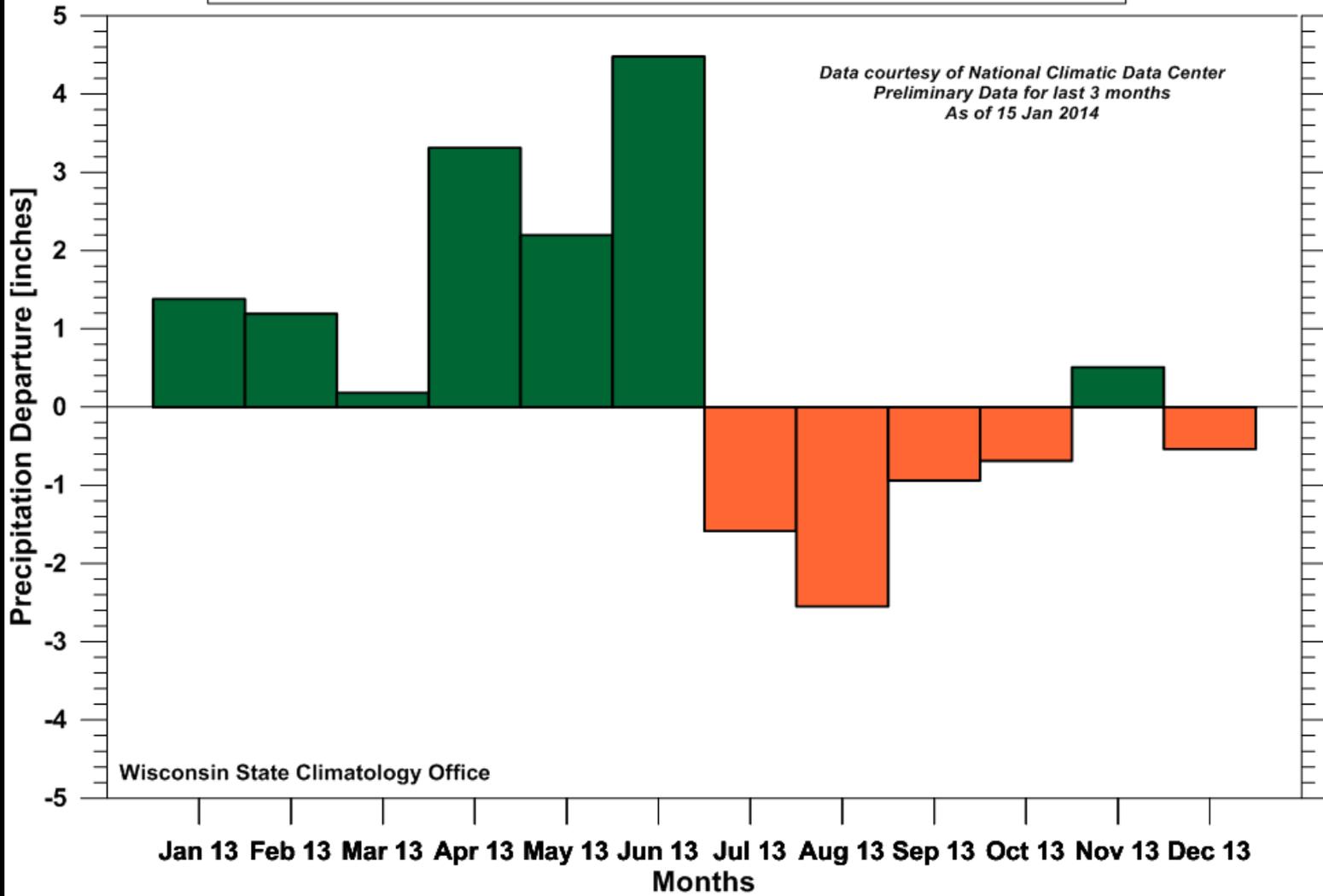
2 bushels spring barley into soybeans seeded 09/17/2013 photo taken 11/16/2013



33#'s cereal rye/27#'s
spring barley flown on
09/13/2013 photo taken
10/29/2013
Note that corn was
harvested 09/26/2013



South Central Wisconsin (CD 4708) Monthly Precipitation Departures (from 1981-2010 Normals) for last 12 months



2013 SLIDESHOW TO FOLLOW



QUESTIONS?

CORRECT TIMING IN CORN



CORRECT TIMING IN SOYBEANS

