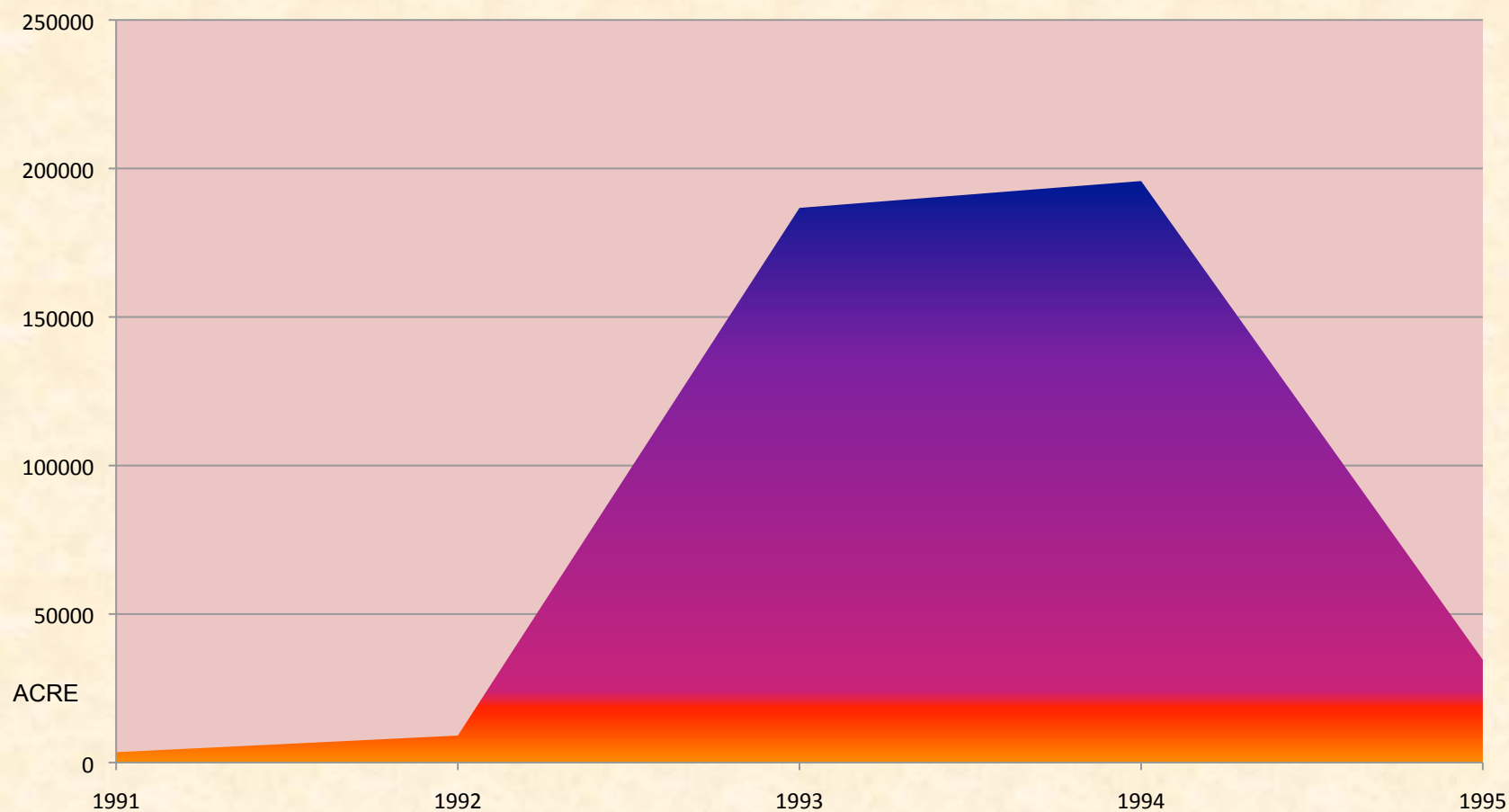


Adapting or Reacting ?

- Producers will react to changing conditions
- Producers will adapt if tools are available
- The goal should be to create the needed tools

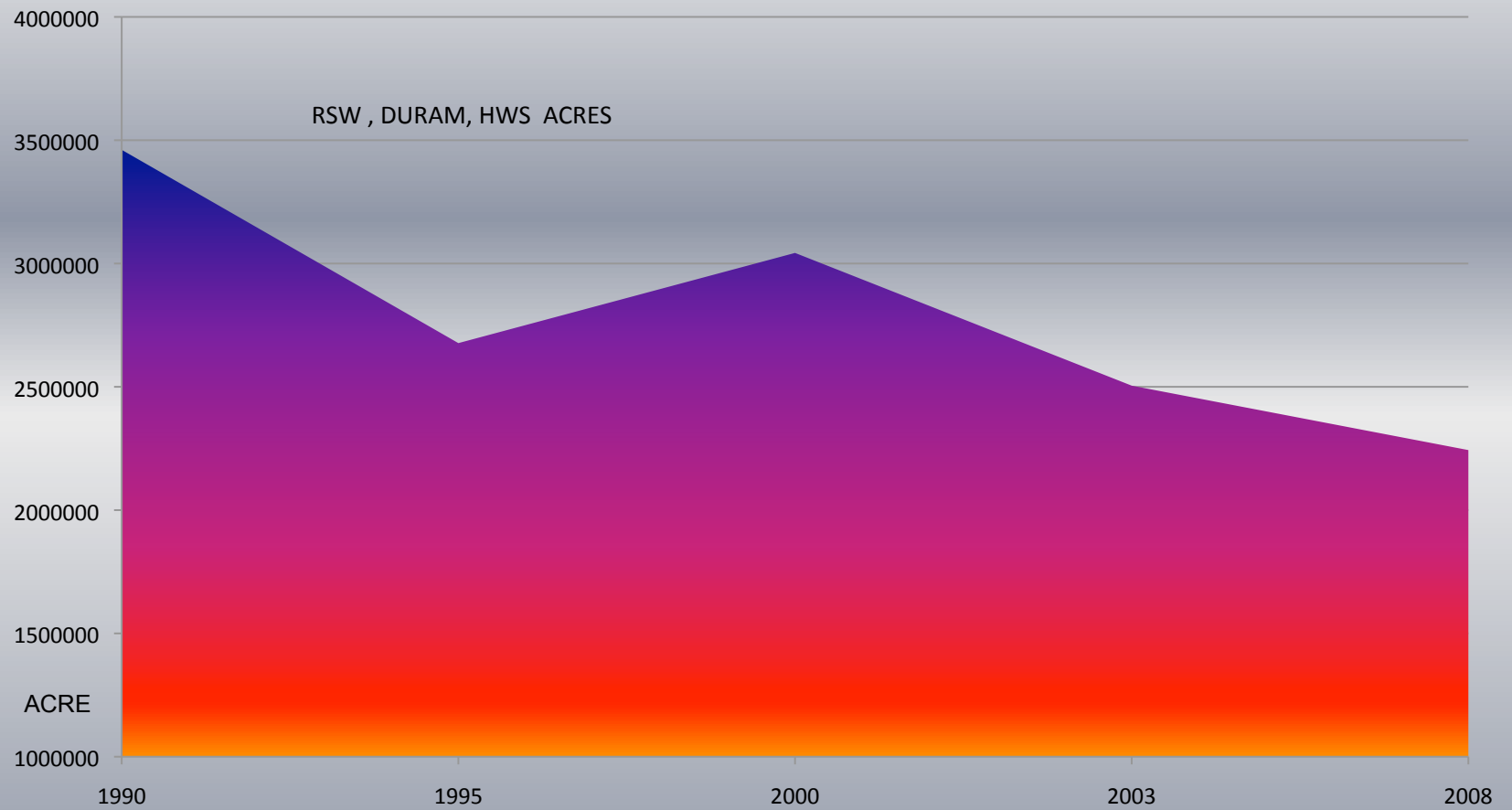
Reacting Quickly, the Grandin Story



FUSARIUM 1992, ENTER GRANDIN

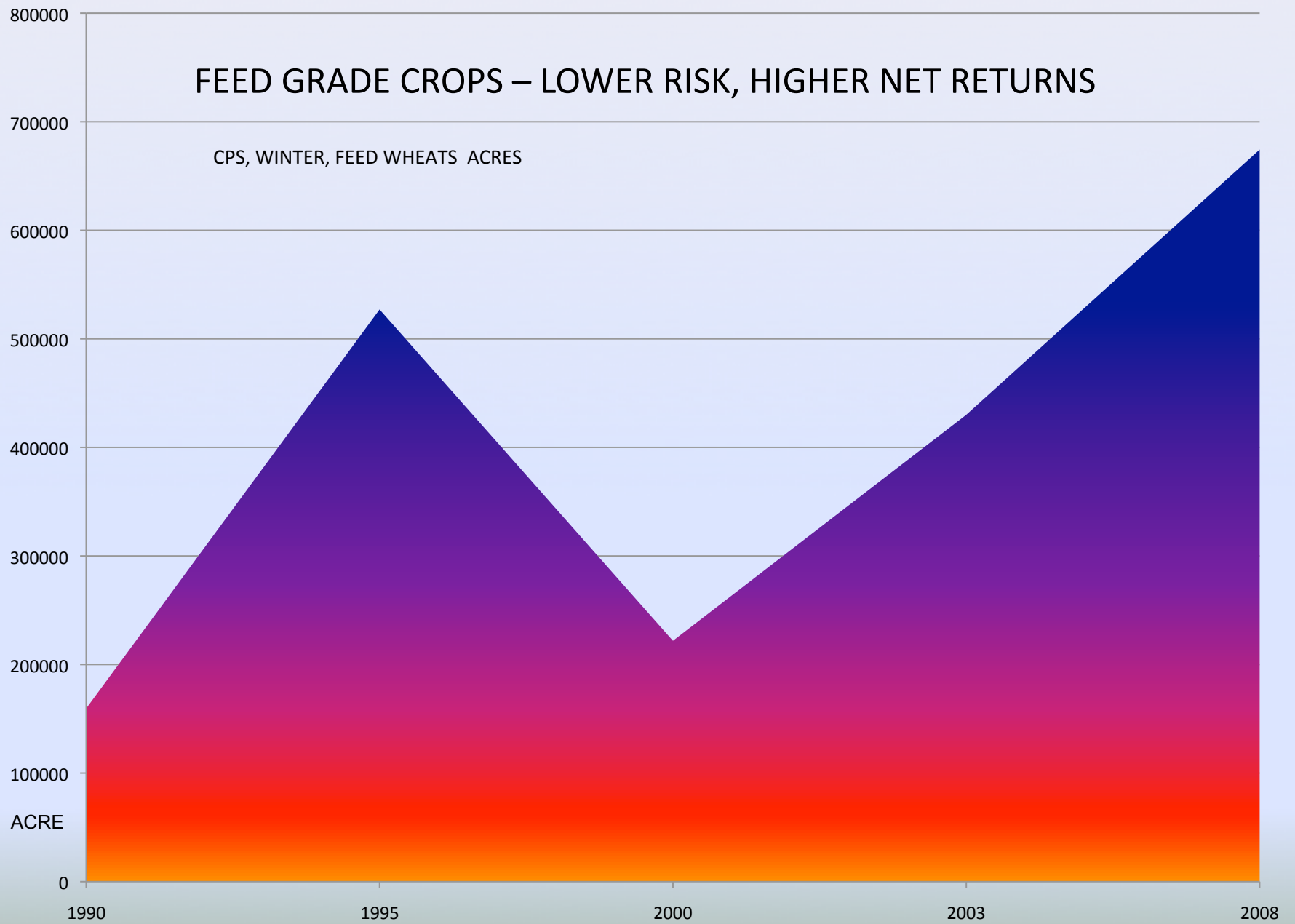
- PRODUCERS REACTED
- FROM ZERO TO 200,000 ACRES –ONE YEAR
- 1055 PRODUCERS
- SHARE OF WHEAT CLASS IN RED RIVER, 70%
- NO COMMERCIAL SEED CHANNELS EXISTED
- NOT A REGISTERED VARIETY
- DIDN'T OFFICIALLY EXIST
- PRODUCERS WOULDN'T BE DENIED

MARKET SIGNALS AND RISK ADVERSION



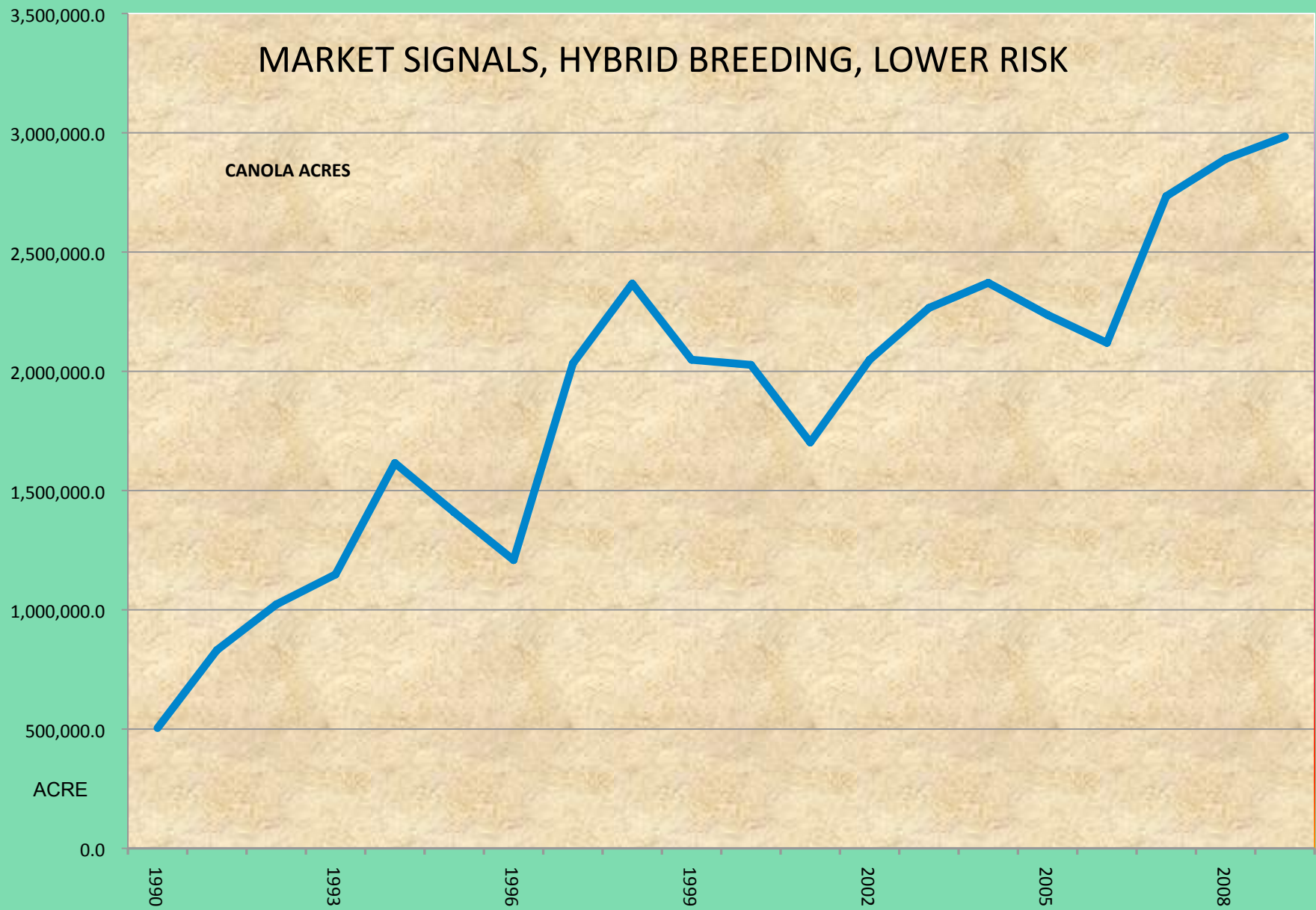
FEED GRADE CROPS – LOWER RISK, HIGHER NET RETURNS

CPS, WINTER, FEED WHEATS ACRES



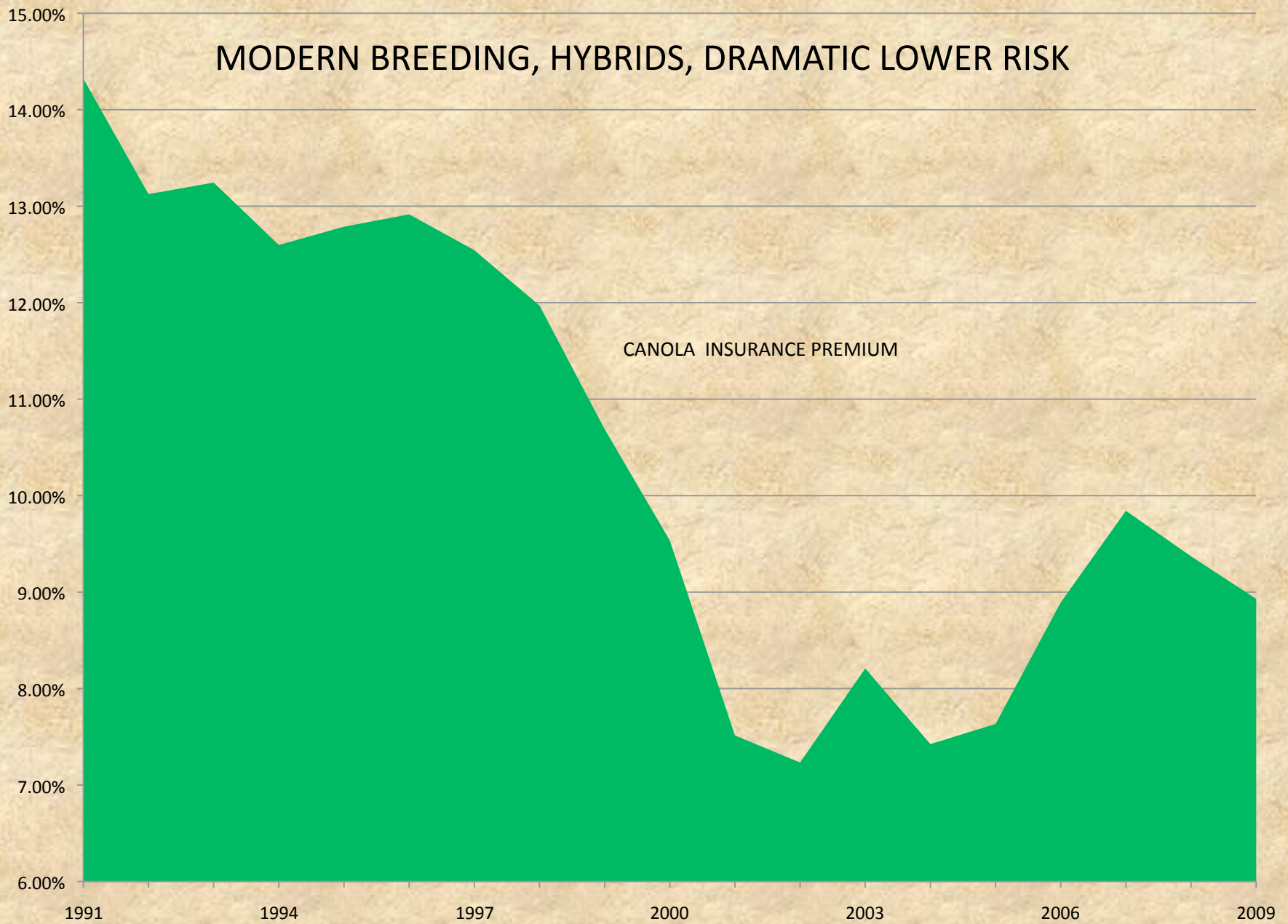
MARKET SIGNALS, HYBRID BREEDING, LOWER RISK

CANOLA ACRES

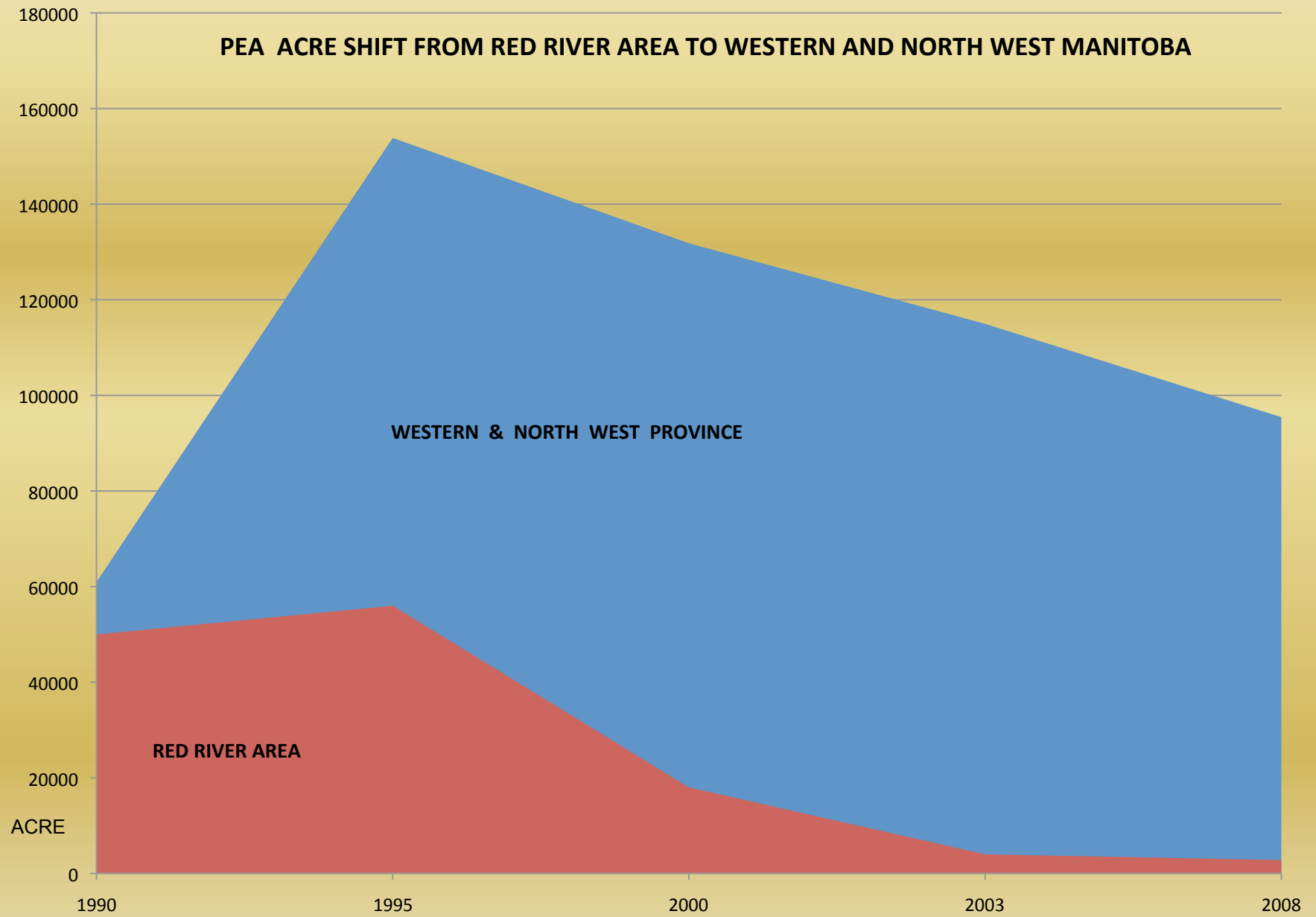


MODERN BREEDING, HYBRIDS, DRAMATIC LOWER RISK

CANOLA INSURANCE PREMIUM



PEA ACRE SHIFT FROM RED RIVER AREA TO WESTERN AND NORTH WEST MANITOBA

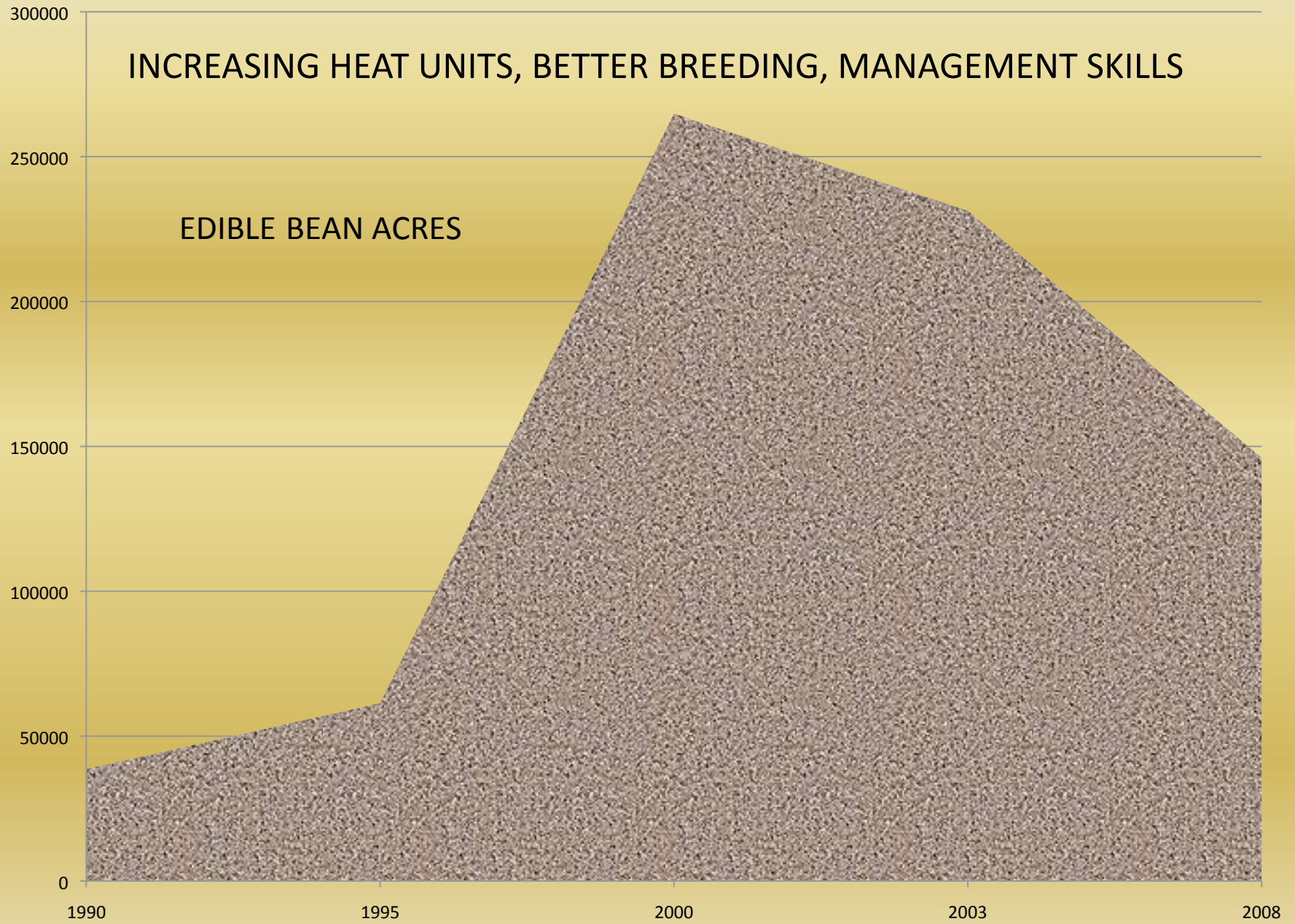


PRODUCERS ADAPTING QUICKLY, PEAS

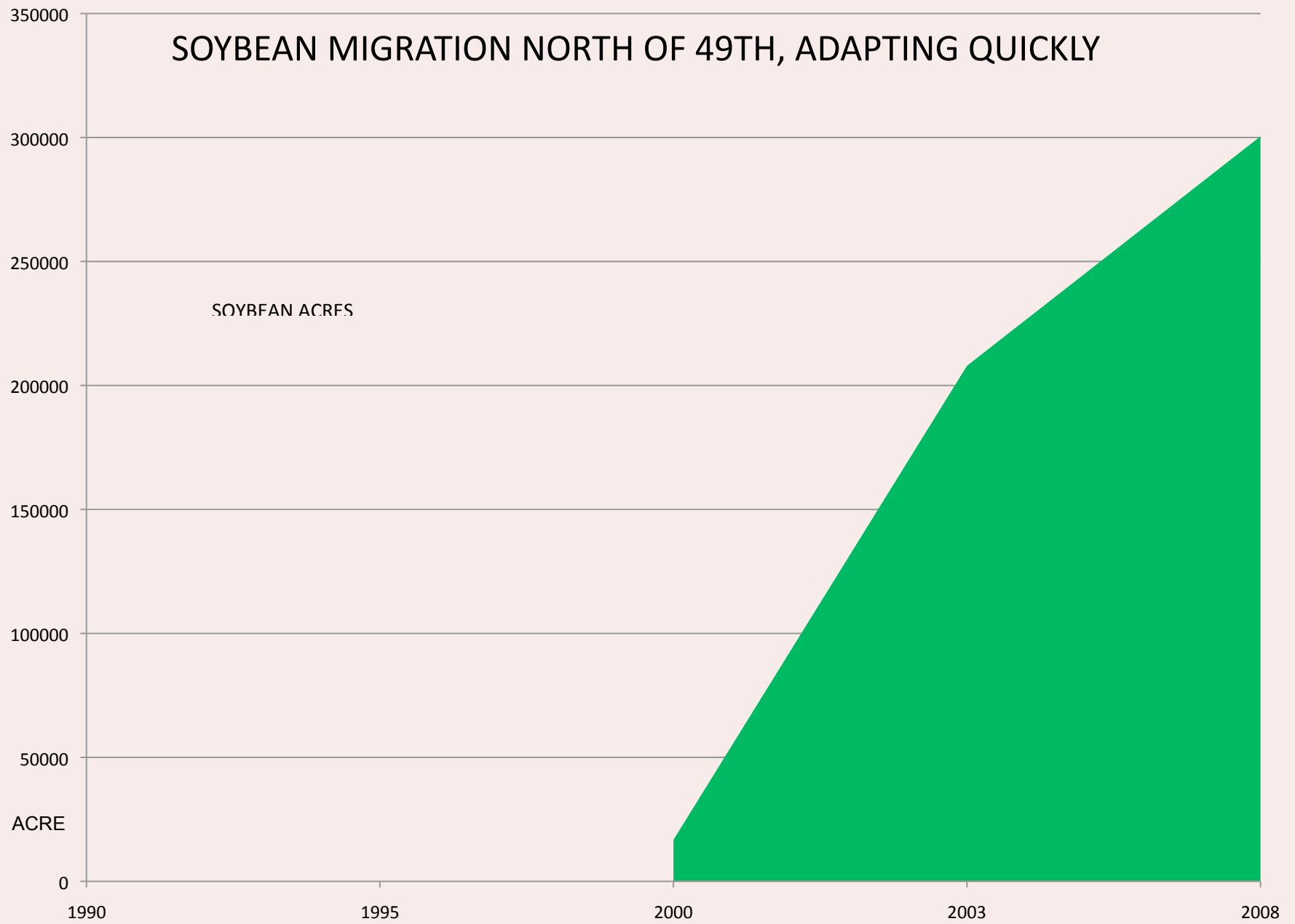
- PEAS WERE TRADITIONAL TO RED RIVER VALLEY AREA
 - DISEASE AND CLIMATE PRESSURES WERE LOWERING RETURNS
 - GRIP PROGRAM UNDERWROTE SOME RISK AND PEA ACRAGE EXPLODED
 - MARKET QUICKLY EXPANDED
 - PRICES NEVER COLLASPED
 - GRIP NEVER PAID OUT ON A PRICE TRIGGER
 - A NEW CROP WAS INTRODUCED INTO ROTATIONS
 - A DISEASE BREAK CROP INCREASED NEXT ROTATION YIELDS
-
- SUDDEN SHIFT IN GROWING AREA LEFT TRADERS QUESTIONING RELOCATION
 - THEN ALONG COME THE NEXT ADAPTATION

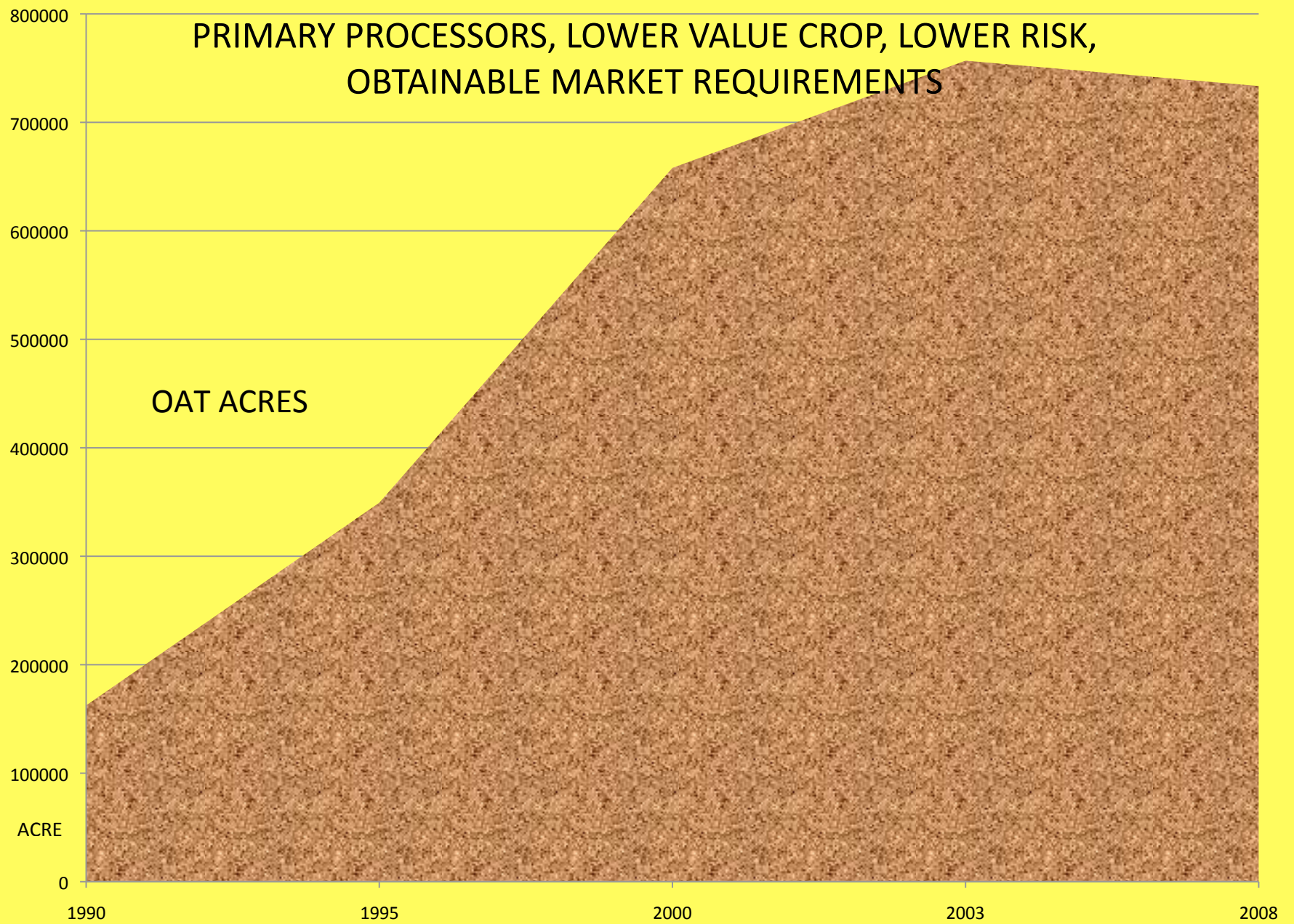
INCREASING HEAT UNITS, BETTER BREEDING, MANAGEMENT SKILLS

EDIBLE BEAN ACRES

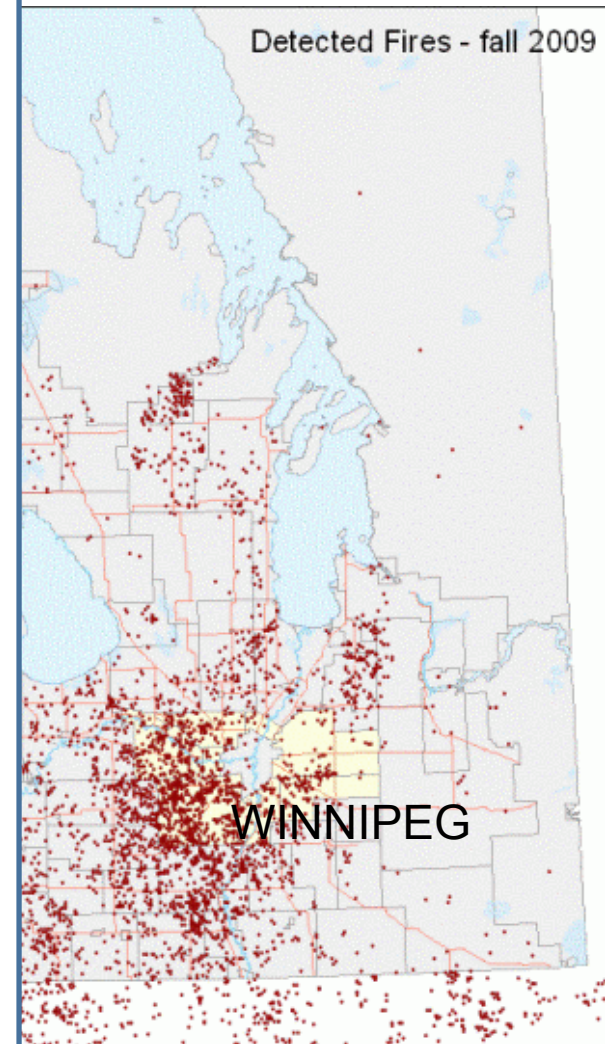


SOYBEAN MIGRATION NORTH OF 49TH, ADAPTING QUICKLY

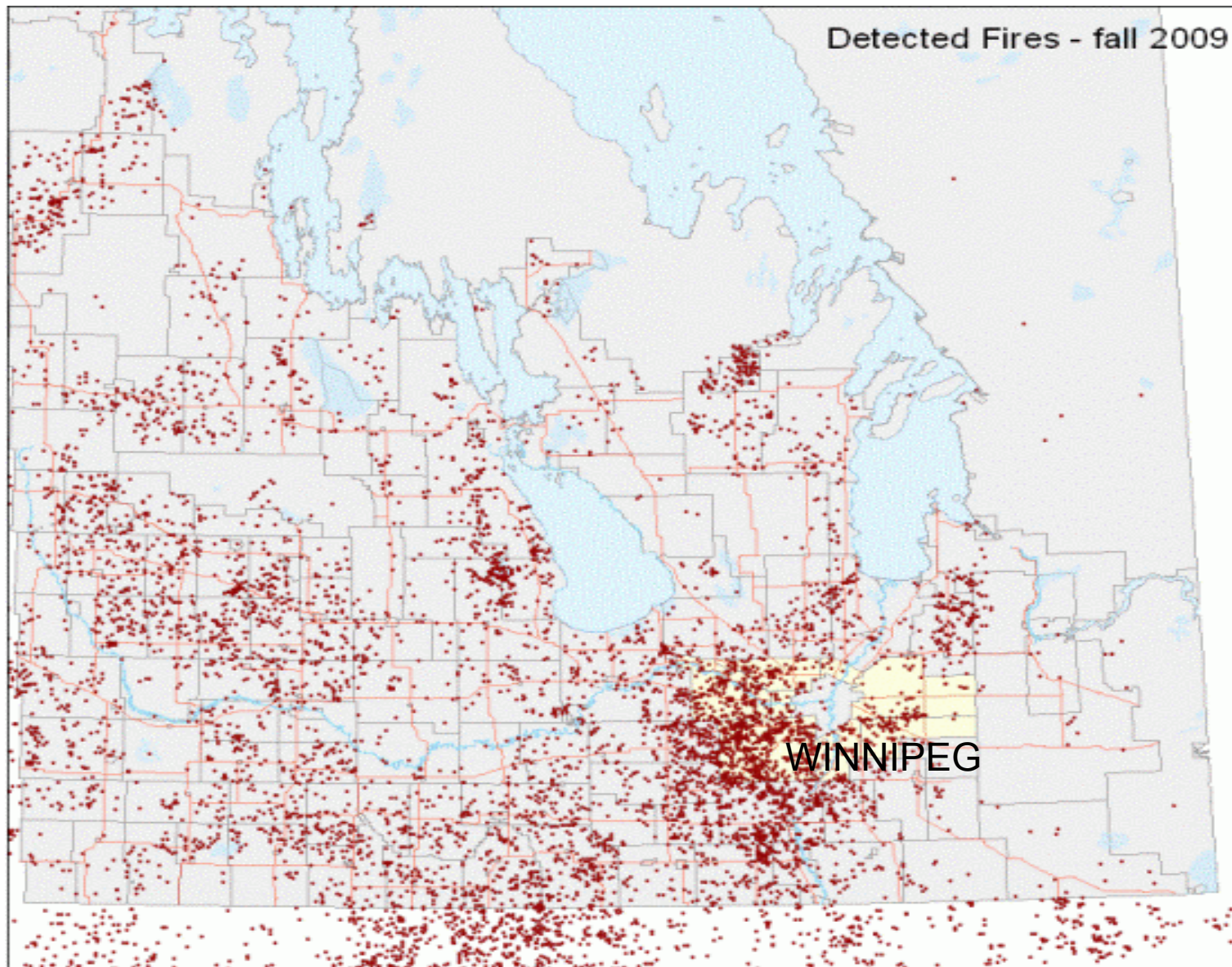




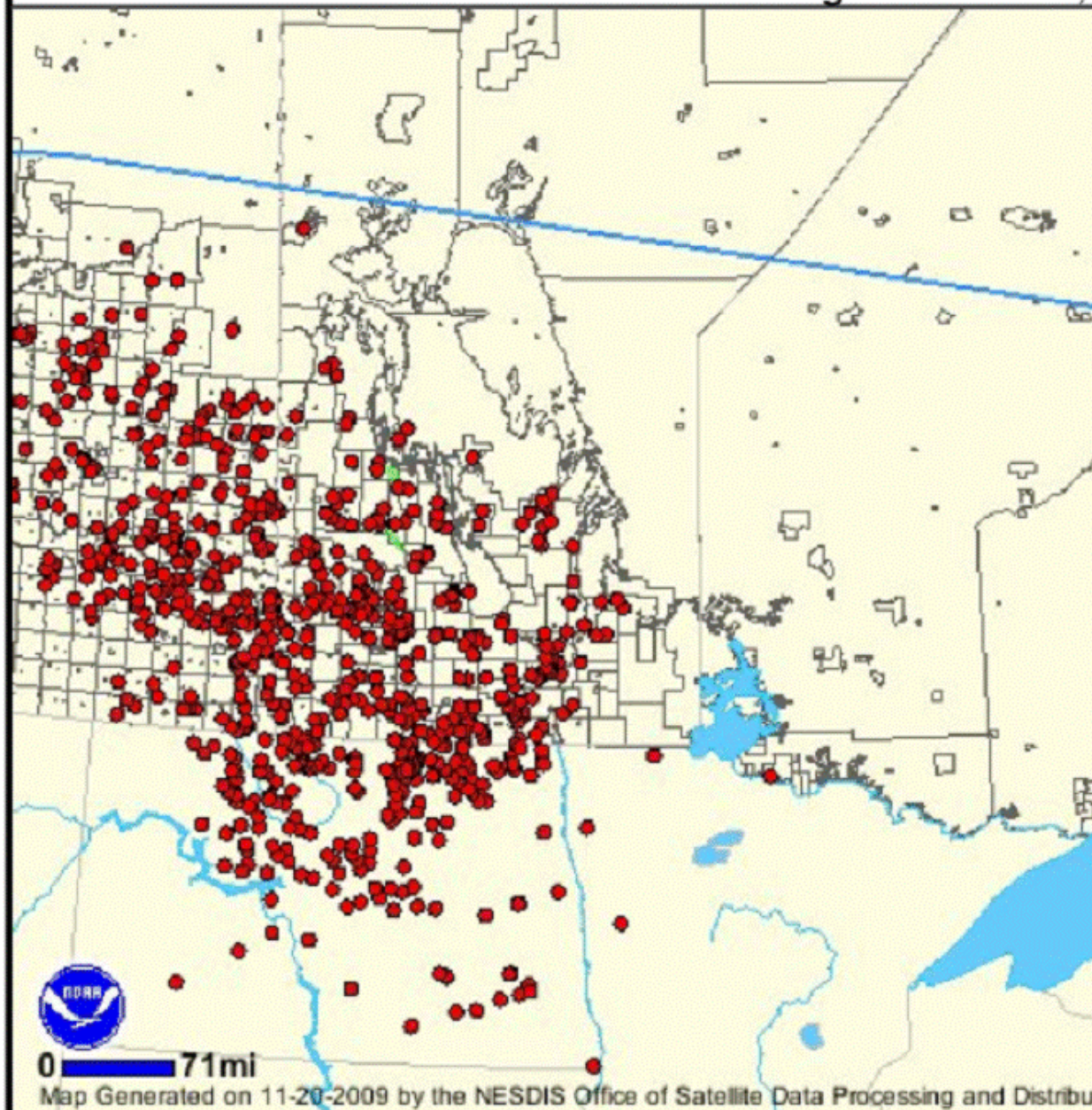
- CROP RESIDUE BURNING
- PROBLEM AREA AROUND WINNIPEG
- EXTENSION NOT WORKING?
- BURNING BAN?
- PRODUCERS NOT ADAPTING?
- PRODUCERS NOT REACTING?



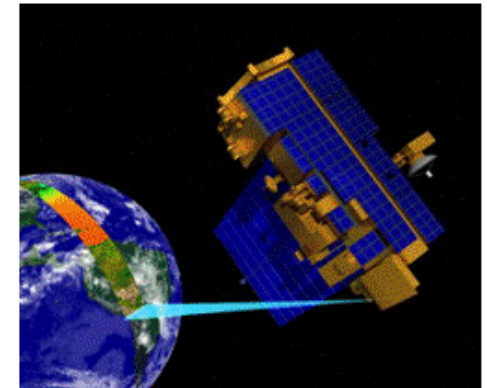
THE REST OF THE STORY



SSD Fire Detection Program - Nov 19, 2009



Legend
● Analyzed Fires from Satellites



2006 FALL

☒ Overview Map

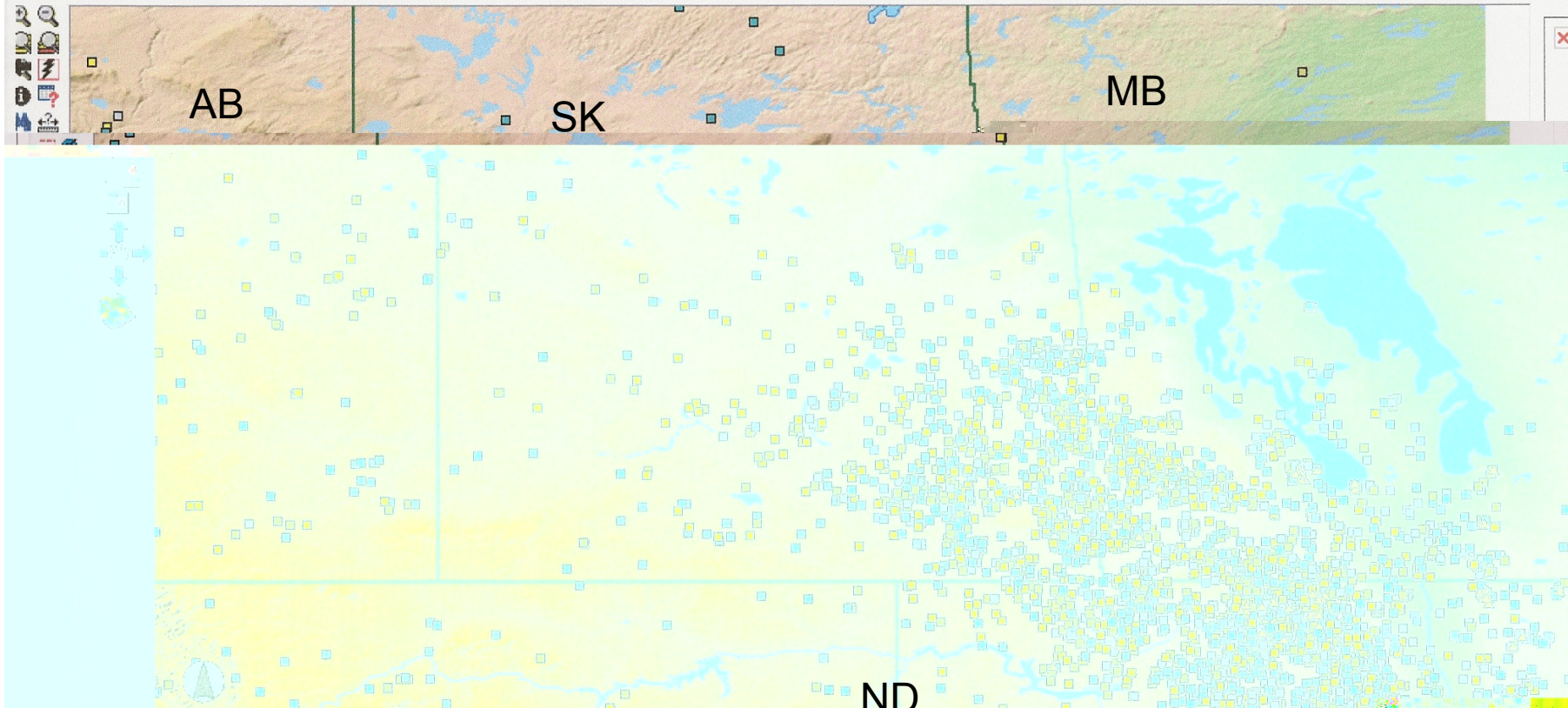
LAYERS
☒ Fire Detections
☒ Background Lay
☒ Labels

Refresh Ma

☒ Auto Refre

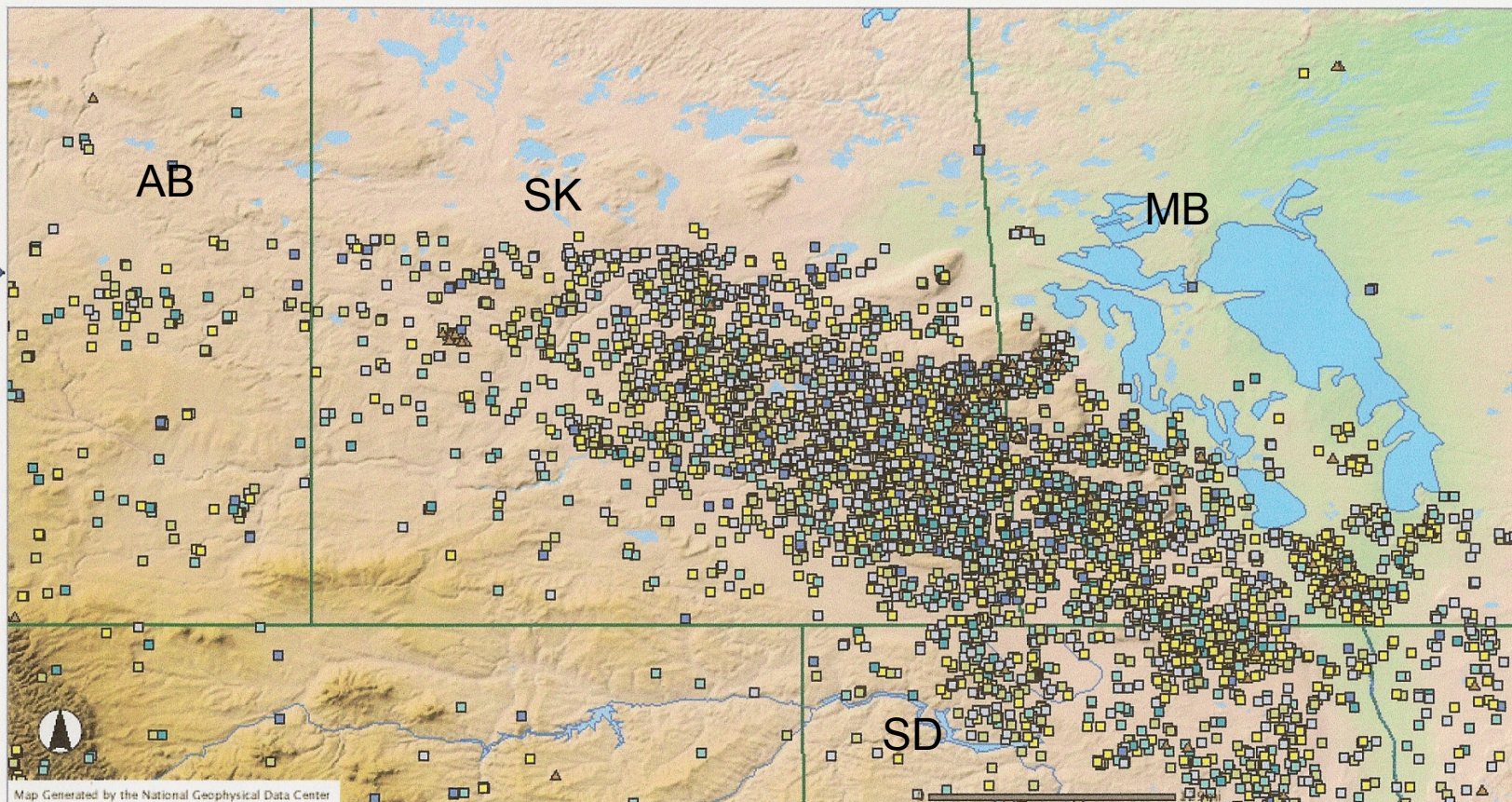
Show Legen


Data constrained to the
between 2005-10-01 0
2006-12-03 05:1



BURNING IN THE HEART OF ZERO TILL –FALL 2008

OAA > NESDIS > NGDC > Maps



Comments? pri

☒ Overview Map

LAYERS

- ☒ Fire Detections
- ☒ Background Layer
- ☒ Labels

Refresh Map

☒ Auto Refresh

Show Legend



Data constrained to the time
between 2008-10-01 05:00
2008-12-03 05:59:59

Date Constraint ☒

From:

2008 · Oct · 1

To:

2008 · Dec · 2

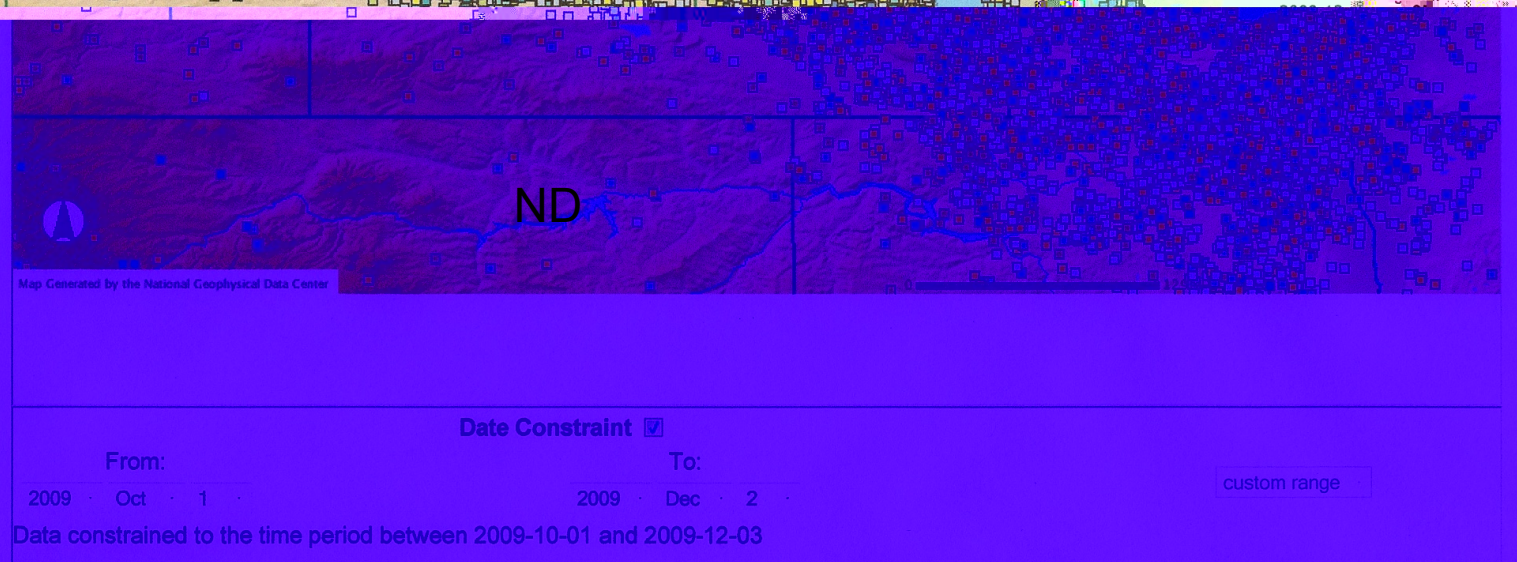
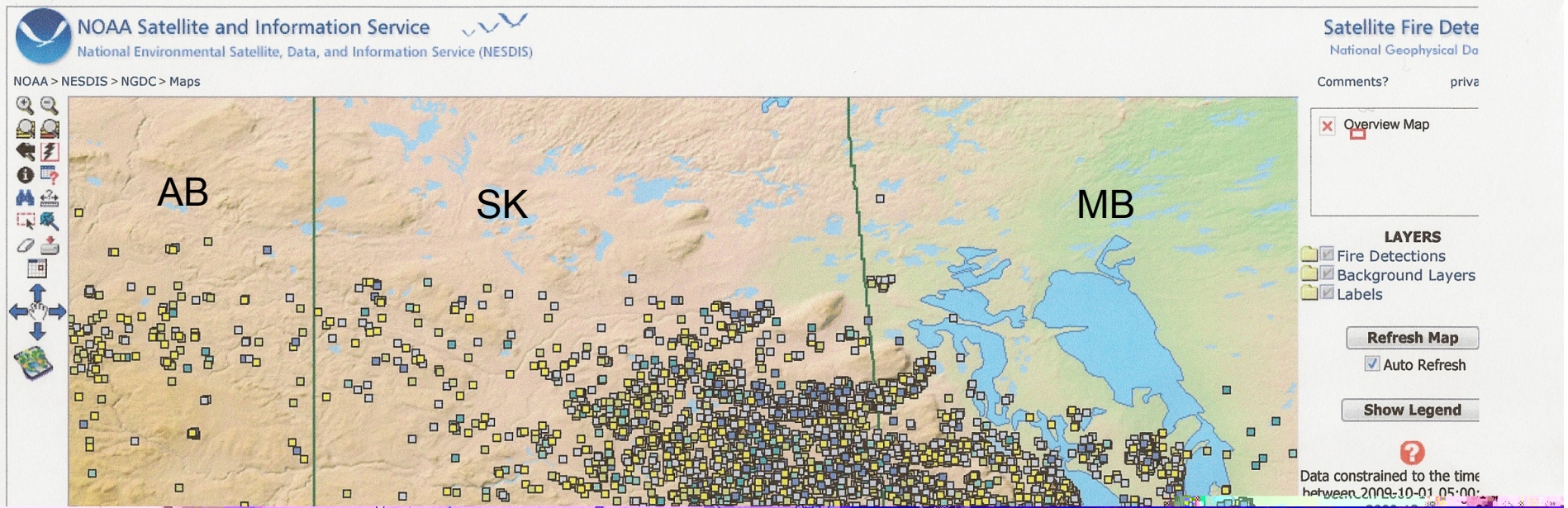
custom range

Data constrained to the time between 2008-10-01 05:00 and 2008-12-03 05:59:59

FALL 2009

WHY ?

- * TREND??
- * COOL SPRINGS??
- * TECHNOLOGY NOT EVOLVING??



CRITICAL REQUIREMENT TOOLS NEEDED TO ADAPTING

- RAPID, FOCUSED BREEDING IN CEREALS AND FORAGES TO HANDLE INCREASING STRESSES OF COOLER SPRINGS, HOTTER SUMMERS, PRECIPITATION SWINGS (**ENVIRONMENTAL PRESSURES**)
- LESS RELIANCE ON DISEASE CONTROL THROUGH TRADITIONAL FUNGICIDE TREATMENTS (**PUBLIC PRESSURES**)
- EFFICIENT UPTAKE OF NUTRIENTS AND WATER USE (**INPUT PRESSURES**)
- COMPLEXITIES OF CROP ROTATIONS TO REDUCE RISK (**PRODUCTION PRESSURES**)
- NEWER EQUIPMENT TECHNOLOGY FROM SEEDING TO HARVEST (**TECHNOLOGY PRESSURES**)