# Crop Insurance Options for Wisconsin Grape Growers

**Paul D. Mitchell**

Associate Professor, Agricultural & Applied Economics

University of Wisconsin-Madison

2013 Wisconsin Fresh Fruit and Vegetable Conference

Wisconsin Dells January 22, 2013

# Grape Production is Risky

- We all know about the crazy weather we had in 2012
  - Early spring, late frosts, drought
- Other years it's been other events
  - Large rainfalls/floods, cool wet springs, early frosts, dry spells, wind/hail etc.
- Farmers have many ways of dealing with these extremes
  - Management/Technology: Variety selection, water misters, smudge pots, etc.
  - Crop Insurance: <u>One</u> way to deal with the financial side of the problem, if management/technology fails

# Goal Today: Review Crop Insurance Options for Wisconsin Grape growers

- Overview of Policy options for Grape growers
- Examples of how they work

- Main idea: Use crop insurance to reduce income variability from weather impacts
- Can use other ways to manage income variability: Save extra money, Geographically diversify, Diversify crops, etc.
- These are all forms of Self Insurance

# Main Crop Insurance Policies

- Multi-Peril Crop Insurance (USDA)
  1. Written Agreement Grape APH Policy
  2. NAP Policy
  3. AGR-Lite
- Specific-Risk Weather Insurance (Private)
  - Temperature and/or Precipitation Insurance

# Crop Insurance Policies

- Multi-Peril Crop Insurance (USDA)
  - Covers losses from multiple perils: frost, excess rain, drought, pests, hail, tornado, wind, etc.
  - Does not cover loses from: bad management, theft, equipment break down, etc.
  - USDA develops and/or administers these policies, though some are sold by private companies
  - USDA support means premiums are subsidized
- Specific Risk Weather Insurance (Private)
  - Insures against specific weather events:
  - Private companies: Premiums not subsidized

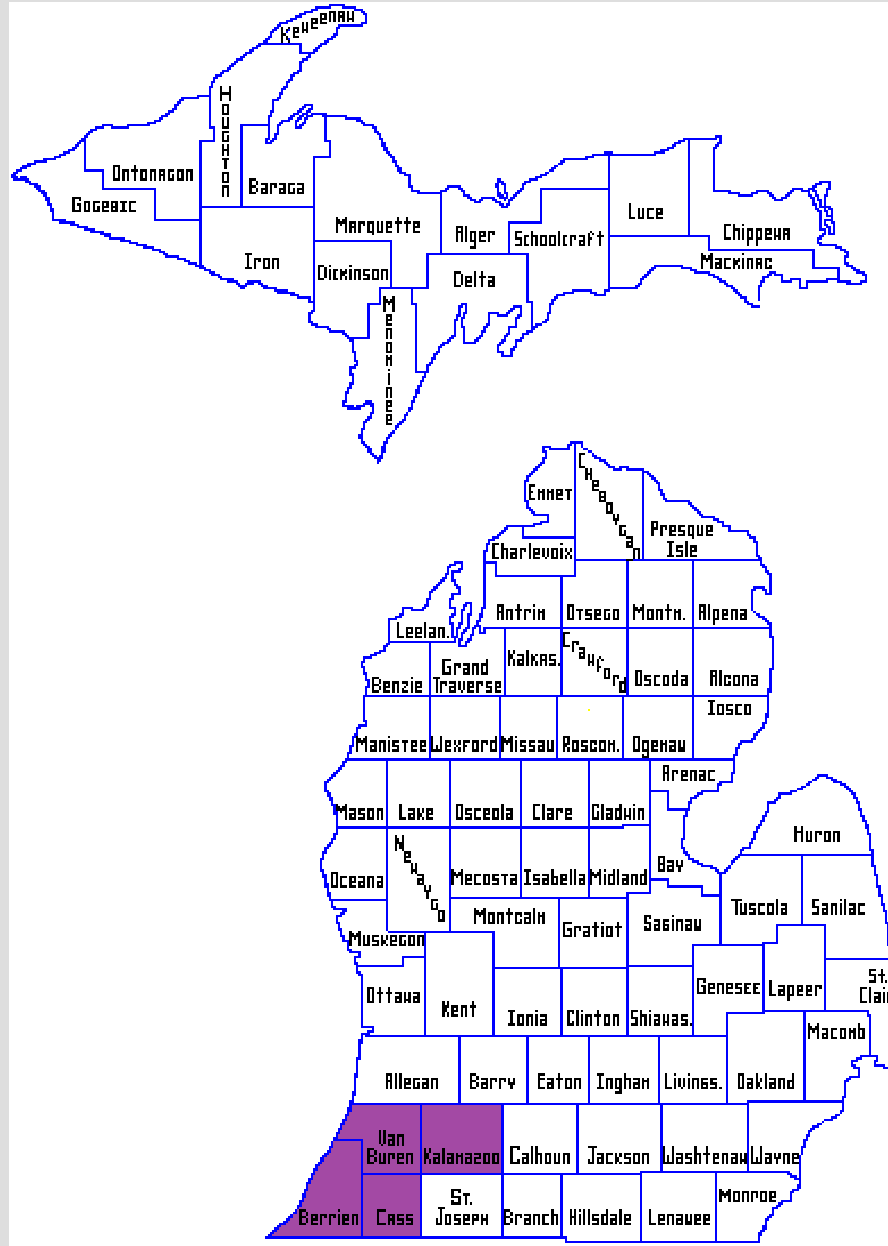
# How Multi-Peril APH Crop Insurance Works

- Establish your average yield/production based on yield or production records
- Choose a percentage of this yield to guarantee
  - Options: 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%
  - Yield below this guarantee triggers indemnity
- Choose price to be paid for losses
  - Set by USDA RMA each year
  - Varies by year, type/variety and location:
  - Grapes in Berrien County, MI 2013:
    - $260/ton for Type A and Niagara grapes
    - $1025 for Type B grapes

# Michigan counties with existing Grape APH Policy

Three Types:

1) Type A: Buffalo, Clinton, Concord, Elvira, Fredonia, Missouri Riesling, and Steuben
2) Niagara
3) Type B: Catawba, Delaware, Diamond, Dutchess, French Hybrids, Isabella, and Ives



# Grape APH Example

- Suppose have a 10 acre vineyard with production records showing an average yield of 6 tons/ac
- Average production 6 x 10 = 60 tons
- Coverage level options
  - 50% x 60 tons = 30 ton guarantee
  - 55% x 60 tons = 33 ton guarantee
  - 60% x 60 tons = 36 ton guarantee
  - 65% x 60 tons = 39 ton guarantee
  - 70% x 60 tons = 42 ton guarantee
  - 75% x 60 tons = 45 ton guarantee
  - 80% x 60 tons = 48 ton guarantee
  - 85% x 60 tons = 51 ton guarantee

# Grape APH Example

- Continuing this example, suppose they are Type A grapes with a price of $260/ton offered by RMA in 2013
- Can choose 100% to 55% of this price
  - Most people choose 100% price election
- Suppose chose 75% coverage level (45 ton guarantee)
- Actual harvest is 35 tons from the vineyard
- Loss is 45 – 35 = 10 tons
- Indemnity is 10 x $260 = $2,600

# Premiums: Rules of Thumb

- Higher coverage level means a higher premium
- Higher grape price means a higher premium
- Lower average yield means “riskier” and a higher premium
- Govt subsidizes premiums with higher subsidy for lower coverage, so higher coverage means higher premiums

| Coverage Level | Govt Subsidy | Grower Share |
|---|---|---|
| 50% | 67% | 33% |
| 55% | 64% | 36% |
| 60% | 64% | 36% |
| 65% | 59% | 41% |
| 70% | 59% | 41% |
| 75% | 55% | 45% |
| 80% | 48% | 52% |
| 85% | 38% | 62% |

# Grape APH Premiums for Berrien County, MI

- Assume a 6 ton/ac average
- 2013 prices: $260/ton Type A and $1025/ton Type B

| Coverage Level | Premium $/ac Type A | Premium $/ac Type B | Premium as % of Liability |
|---|---|---|---|
| 50% | $37.70 | $148.50 | 4.83% |
| 55% | $47.90 | $188.80 | 5.58% |
| 60% | $55.20 | $217.50 | 5.90% |
| 65% | $72.30 | $285.20 | 7.13% |
| 70% | $89.50 | $352.80 | 8.20% |
| 75% | $122.60 | $483.50 | 10.48% |
| 80% | $178.00 | $701.70 | 14.26% |
| 85% | $266.80 | $1,052.00 | 20.12% |

Liability = Coverage Level x 6 tons/ac x Price

# Grape APH Policy in Wisconsin: By Written Agreement Only

- Wisconsin does not have a Grape APH policy available
- <u>**Written Agreement**</u>: USDA-RMA will *in some cases* provide growers with an APH policy based on an existing policy in a nearby county (e.g., Michigan)
- Wisconsin growers can request a Written Agreement working with their crop insurance agent and the RMA
- Key issue: Vines must be at least 5 years old and you need at least 3 years of good production records
  - Verifiable records = sales receipts
- Takes extra work for crop insurance agent and RMA, so start early and ask about the production history you need
- Sales closing date: <u>**November 20**</u>

# $2^{nd}$ Alternative: NAP Policy

- USDA Farm Service Agency manages the "Noninsured Crop Disaster Assistance Program" (NAP)
- FSA mandated to provide a NAP policy when a traditional crop insurance policy is not available
- NAP policy is a Catastrophic Policy (CAT), which is a specific type of APH policy
- NAP policy: Cheap, bare bones CAT policy that costs $300/crop in a county, regardless of acres/crop value
- Where do I buy it? County FSA Office
- Sales closing date is also **<u>November 20</u>**
- Still need production records to establish guarantee

# NAP Policy

- NAP is a CAT policy: must use 50% coverage level with a 55% price election
- FSA establishes the price (likely to use RMA data)
- CAT: must lose half your average crop before start to receive payments and then only 55¢ per $1 of loss
- Max that NAP policy will pay = 50% x 55% = 27.5% of crop value if a total crop loss
- With 6 tons/ac average and $260 price, a total crop loss would pay 55% x $260 x 50% x 6 = $429/ac
- Buy a NAP policy while establish yield records and wait for vines to age to qualify for a written agreement?
- Buy a NAP policy so qualify for federal disaster aid?
  - I have not asked FSA if they require the 5-year vine age rule before providing a NAP policy

# Tree Assistance Program (TAP)

- These crop insurance policies only cover production losses, not vine losses
- Federal disaster assistance helps with vine losses
- Tree Assistance Program (TAP) was extended as part of the Farm Bill Extension passed with Fiscal Cliff deal
- Can request FSA for disaster aid to replant vines
  - Need at least a 15% stand loss
  - Must replace the stand within 1 year
  - Must have the crop production insured
- Contact county FSA office for more details
- Buy a NAP policy so qualify for federal disaster aid?

# 3rd Alternative: AGR-Lite Policy

- AGR-Lite = Adjusted Gross Revenue-Lite
- Whole farm revenue insurance
- Gross revenue guarantee based on 5-year average of Schedule F income
  - Some adjustments (Adjusted Gross Revenue)
  - Lite: $1,000,000 liability (max indemnity) limit

# AGR-Lite: Main Idea

- Use past tax records to determine expected gross revenue for 2013
- Choose % of this expected gross as farm revenue guarantee (Coverage Level)
  - 65%, 75%, 80% coverage level
- Choose payment rate (90% or 75%)
  - For every dollar below guarantee, paid 90¢ or 75¢
- After file taxes for 2013, if actual gross revenue is less than chosen guarantee, receive an indemnity based on chosen payment rate

# Hypothetical Example

| Year | AGR Income |
|---|---|
| 2007 | $85,000 |
| 2008 | $95,000 |
| 2009 | $115,000 |
| 2010 | $95,000 |
| 2011 | $110,000 |
| 5-year avg | $100,000 |
| 2012 | "Skip Year" |
| 2013 | Coverage Year |

These all "<u>adjusted</u>" gross revenues

Choose coverage level for revenue guarantee based on this amount

2012 tax forms not field yet

# Available AGR-Lite Options

| Coverage Level | Payment Rate | Minimum # Crops | Max Annual Income | Premium Subsidy |
|---|---|---|---|---|
| 65% | 75% | 1 | $2,051,282 | 59% |
| 65% | 90% | 1 | $1,709,402 | 59% |
| 75% | 75% | 1 | $1,777,778 | 55% |
| 75% | 90% | 1 | $1,481,481 | 55% |
| 80% | 75% | 3 | $1,666,667 | 48% |
| 80% | 90% | 3 | $1,388,889 | 48% |

# Hypothetical Example Continued

- Suppose have 75% coverage level and 90% payment rate
- Guarantee = 75% x $100,000 = $75,000
- Actual Adjusted Gross Revenue = $50,000
- Loss = $75,000 – $50,000 = $25,000
- Indemnity = 90% x $25,000 = $22,500

- Max Indemnity = 90% x $75,000 = $67,500

# What's Excluded? The "Adjusted" in AGR-Lite

- Value added activities: (e.g., cost and value of post-production sorting, packaging, etc.)
- Cooperative dividends not directly related to commodities produced
- Income from custom hire machine work
- <u>Most</u> other USDA payments (e.g., disaster)
- Crop insurance indemnity payments

# Insured & Excluded Causes of Loss

- Insured Losses: Revenue losses from natural causes (yield) or from market fluctuations (price)
  - Must still follow good farming practices
- Excluded causes of loss
  - Theft, vandalism, “mysterious disappearance”
  - Lack of labor (e.g., to harvest ripe crop)
  - Inability to market commodities due to quarantine, boycott, ore similar
  - Failure of buyer to pay for commodity

# Covered Crops:

- <u>Grains:</u> corn, soybeans, wheat, small grains
- <u>Forage:</u> alfalfa, corn silage, silage, …
- <u>Fruit:</u> apples, grapes, pears, peaches, plums, cherries, cranberries, numerous berries, …
- <u>Vegetables:</u> Potatoes, sweet corn, beans, peas, carrots, onion, beets, garlic, celery, cabbage, broccoli, cauliflower, melons, squash, pumpkins, tomatoes, peppers, eggplant, greens, asparagus, horseradish, …
- <u>Livestock:</u> cattle, hogs, sheep, goats, poultry, dairy, fish, fur, …
- <u>Miscellaneous:</u> mint, ginseng, popcorn, herbs, maple syrup, honey, X-mas trees, nursery crops, cut flowers, potted plants, …

# What’s Not Covered

- Covered crop/livestock must generate income to report on tax forms, so crops marketed through livestock are not covered
  - Forage if sold it is covered, but not if it is fed to dairy cows (but the milk is covered if sold)
  - Grapes used to make wine not covered because they are never sold and so do not generate income for taxes
- Coverage based on Gross Income, not net income
  - No indemnity for higher costs, such as a dry year when have to run irrigation more or buy forage for livestock and/or dairy
- No more than 50% of your farm income from ag commodities purchased for resale

# More AGR-Lite Details

- Calculate average gross revenue from 5 continuous years of tax forms
- Must have 5 consecutive years of Schedule F/1040 records
- Combine AGR-Lite with standard crop-specific policies to reduce total premiums paid
  - Use Revenue Protection/Yield Protection for grains
  - APH for your apples, etc.
  - Gives a premium break for standard policy
  - Give specific coverage for those crops
  - AGR-Lite an “umbrella” over whole farm

# How AGR-Lite does premiums

- Calculate % revenue for each “crop”
- A crop generates at least 1/9th (11.1%) of gross revenue
- Crops categorized from low risk (1) to high risk (5)
- Each crop risk category has base premium rate
- Final premium rate is average of the premium rates, weighted by % of revenue from that crop
- Diversity Factor: as have more crops, lower premium
  - Premium for 5 crops is less than for 3 crops with the same risk level
- Premium subsidy: farmer pays 41%, 45%, 52% of premium, with lower % for lower coverage

# Hypothetical Premium Example

- $100,000 avg revenue with 75% coverage level and 90% payment rate gives $75,000 guarantee and liability of $67,500 (= 90% x $75,000)
- 75% revenue from crop 1, 25% from crop 2
  - Crop 1 premium rate = 0.10, Crop 2 premium rate = 0.05
- Revenue Weighted Average rate
  - 75% x 0.10 + 25% x 0.05 = 0.0875
- Diversity factor = 0.667 x 0.0875 = 0.0584
- Premium is 0.0584 x $67,500 = $3,942
- Premium subsidy is 55%, so farmer pays 45%, or 45% x $3,942 = $1,774

# Crop Risk Categories

- **Category 1: lowest risk**
  - Oats, Rye
- **Category 2: moderately low risk**
  - Cabbage, Cucumbers, Flowers (Other), Processing Sweet Corn, Barley
- **Category 3: moderate risk**
  - Asparagus, Beets, Broccoli, Brussels Sprouts, Carrots, Cauliflower, Garlic, Herbs, Horseradish, Popcorn Strawberries, Cranberries, Potted Flowers, Seasonal Potted Plants, Flower Seed, Maple Syrup, Pumpkins, Processing Summer Squash, Winter Squash
  - Corn, Soybeans, Wheat, Alfalfa, Clover, Hybrid Corn Seed, Forage Production, Other Forage Seeds

# Crop Risk Categories

- **Category 4: moderately high risk**
  - Green Peas, Greens, Mixed Vegetables, Fresh Market Snap Beans, Fresh Market Sweet Corn, Fresh Market Tomatoes, Onions, Peppers (Other), Eggplant, Dry Beans, **Grapes**, Vegetable Seed
  - Apples, Plums, Blueberries, Raspberries, Other Berries, Christmas Trees, Mint, Cut Flowers, Dried Flowers, Flower Bulbs, Bedding Plants, Ginseng, Other Small Grains
- **Category 5: high risk**
  - Potatoes, Tart Cherries, Apricots, Peaches, Pears, Melons (All Other), Celery, Other Vegetables, Other Crops, Other Fruits

# How to get lower premiums

- Get as much of your revenue from low risk crops as you can
  - See if you can get 11.1% of revenue from a category 2 or 3 crop, will reduce your premiums
- Choose general categories with care and group crops carefully
  - Mixed Vegetables (4) vs Other Vegetables (5)
  - Flowers (Other) (2) vs Potted Flowers (3) vs Cut Flowers or Dried Flowers (4)
- If you can, insure the crop under a standard crop insurance policy, then add AGR-Lite, will save on total premiums paid over all policies

# AGR-Lite Final Comment

- Sales closing date is **<u>March 15</u>**
- Takes time to assemble records, so start early so agent can work with you to identify the best policy for you
- All agents sell exactly the same policy for exactly the same price, so you are buying service
- 2012: 19 policies in WI: $2.56 million in liability, premiums of $113,000, premium rate of 4.4%
- 2011: 24 policies in WI, $5.28 million in liability, premiums of $175,00, average premium rate of 3.3%
- 2010: 20 policies in WI: $2.70 million in liability, premiums of $121,000, average premium rate of 4.5%

# Final Possibility: Weather Insurance

- Google “Weather Insurance” Several companies sell specific risk weather insurance
  - Weather event policies for Temperature and/or Precipitation events
  - Custom design a policy for your needs
- Example: For every day minimum daily temperature below 30ºF from May 1 to May 14 at Weather Station “Wisconsin Dells 479319”, receive payment of $2,000
- Privately provided, no government premium subsidy

# Summary: Crop Insurance Options

- 1) Written Agreement APH policy
  - Buy from a crop insurance agent by Nov 20th
  - 5 year old vines and 3 years of production history
- 2) NAP Policy
  - Buy from FSA county office by Nov 20th ($300/crop)
  - Useful for new farmers without records
- 3) AGR-Lite
  - Buy from a crop insurance agent by March 15th
  - 5 continuous years of tax records
- 4) Weather Insurance
  - Buy from weather insurance company
- 5) Tree Assistance Program: Vine kill disaster aid from FSA

# Questions? Comments?

**Paul D. Mitchell**

- Associate Professor, Agricultural & Applied Economics
- University of Wisconsin-Madison
- Email: pdmitchell@wisc.edu
- Office: 608-265-6514
- Web: http://www.aae.wisc.edu/pdmitchell/extension.htm