

# **Observations About Marijuana Demand and Production Economies**

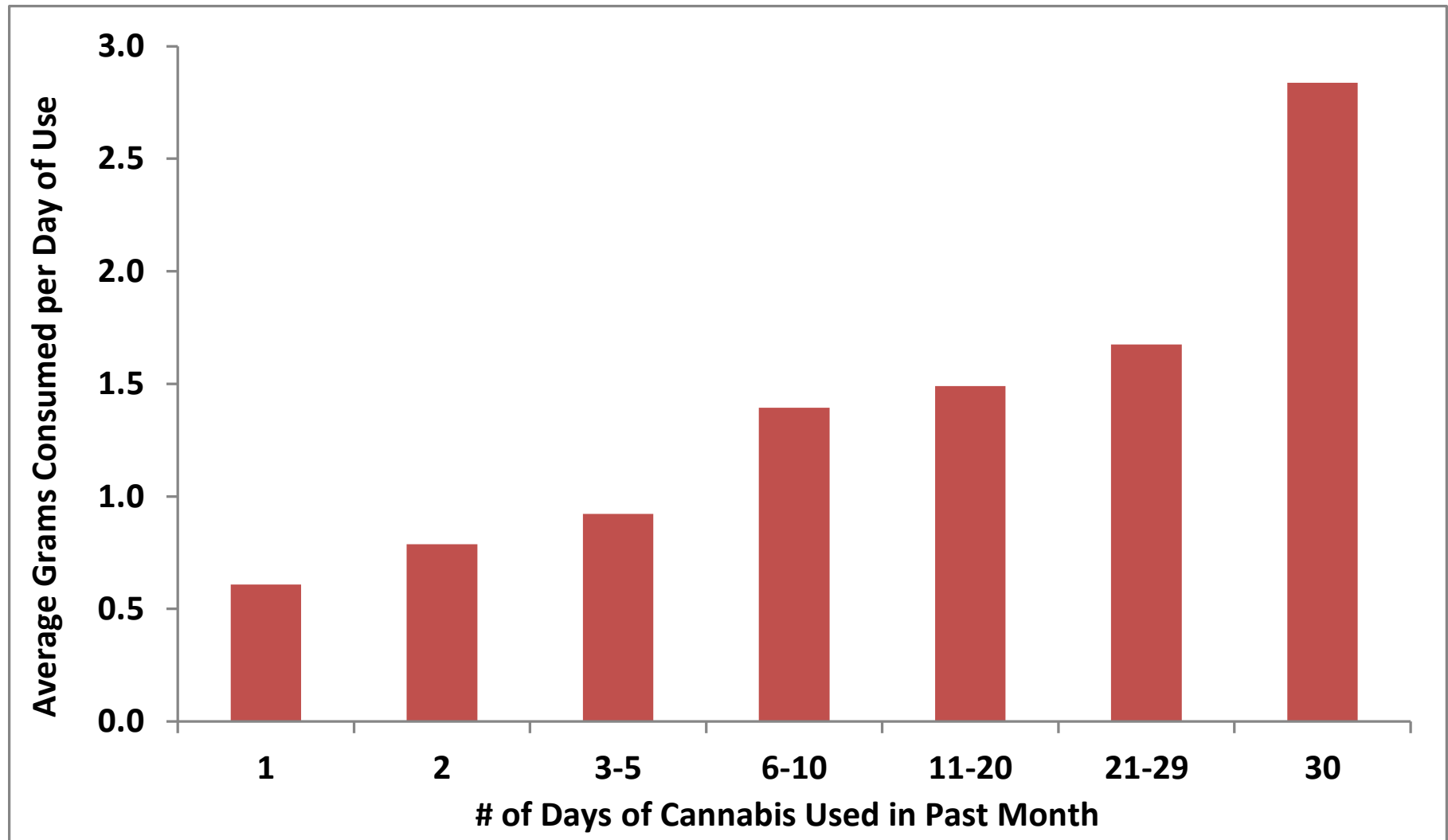
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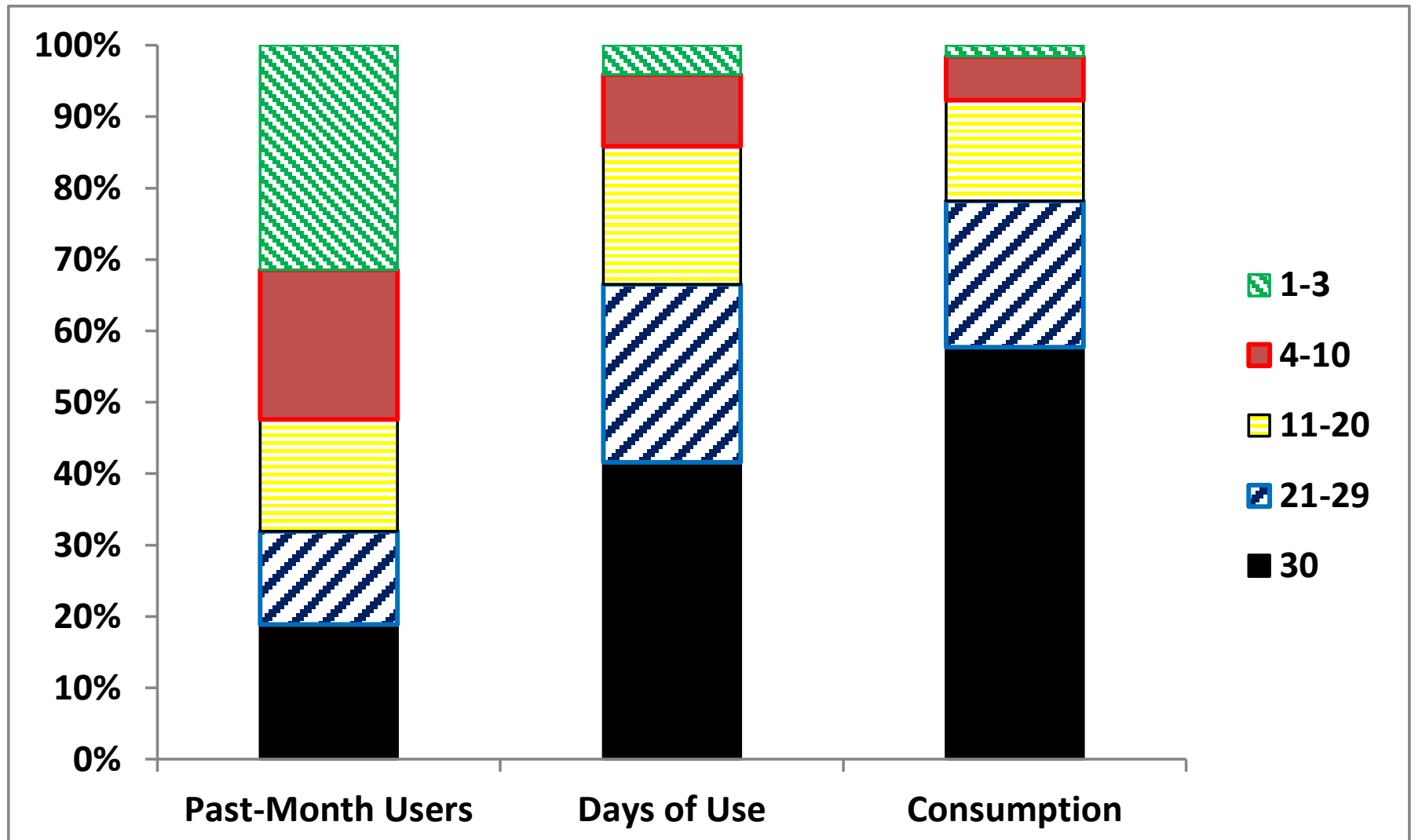
# **1. Daily & Near-Daily Users Are (Almost) All that Matter for Sales/Profits**

- 80/20 rule: The one-in-five past-year users who consume more than 20 days per month account for ~80% of consumption

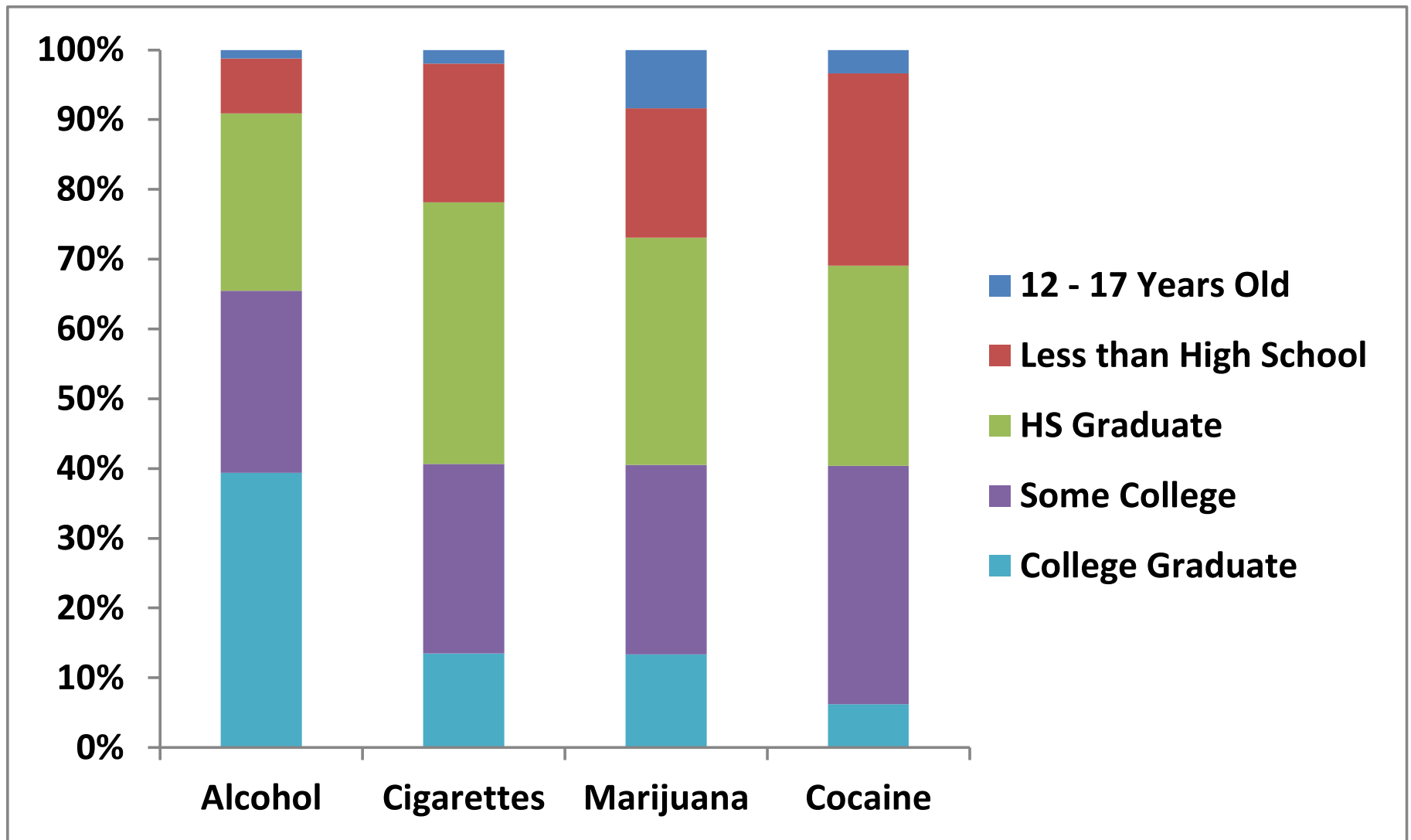
# Frequent Users Also Use More Intensively (EU Data)



# Daily & Near-Daily Users Dominate Consumption



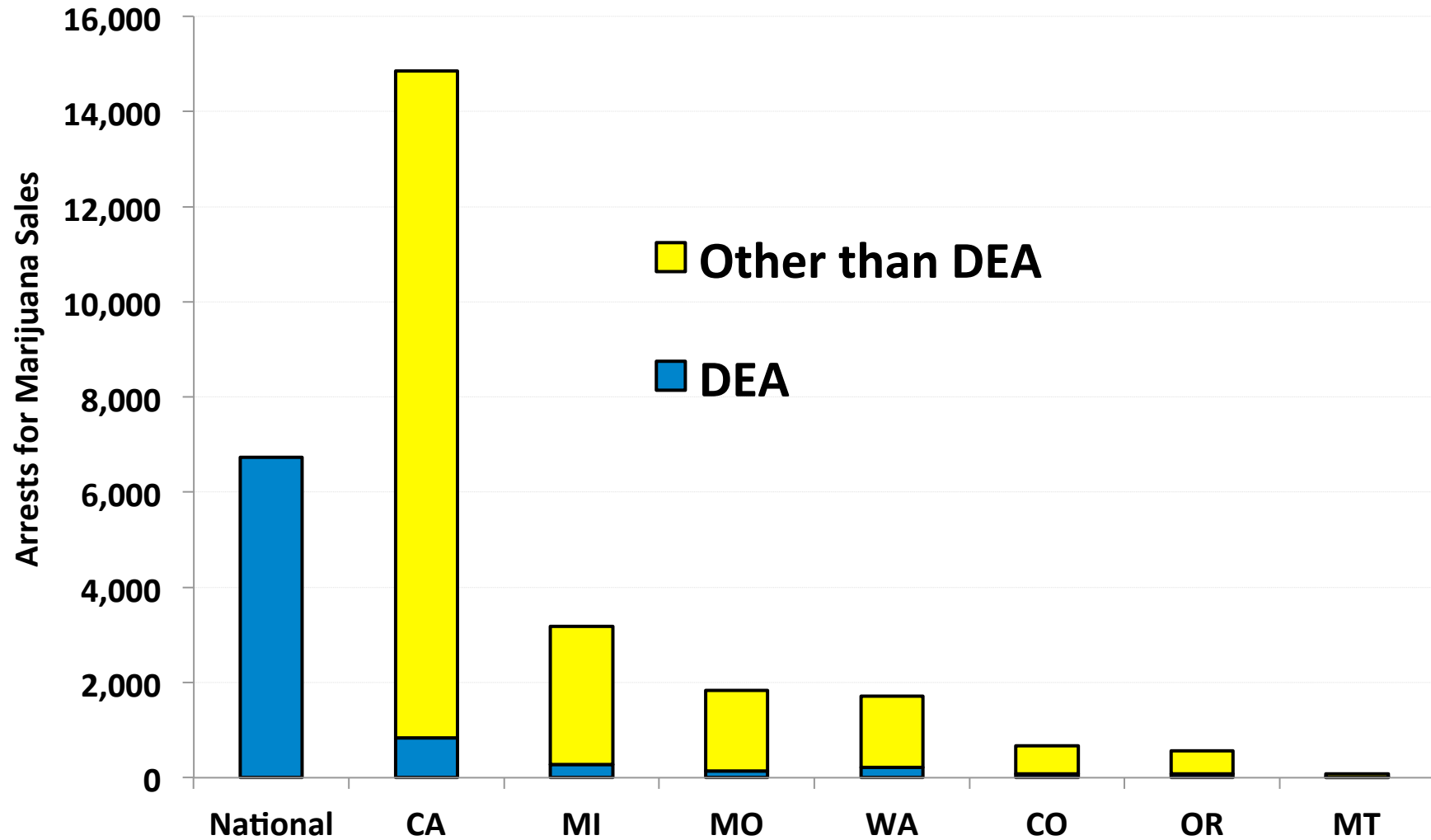
## 2. Wal-Mart not Whole Foods Clientele (Days of Use by Educational Status)



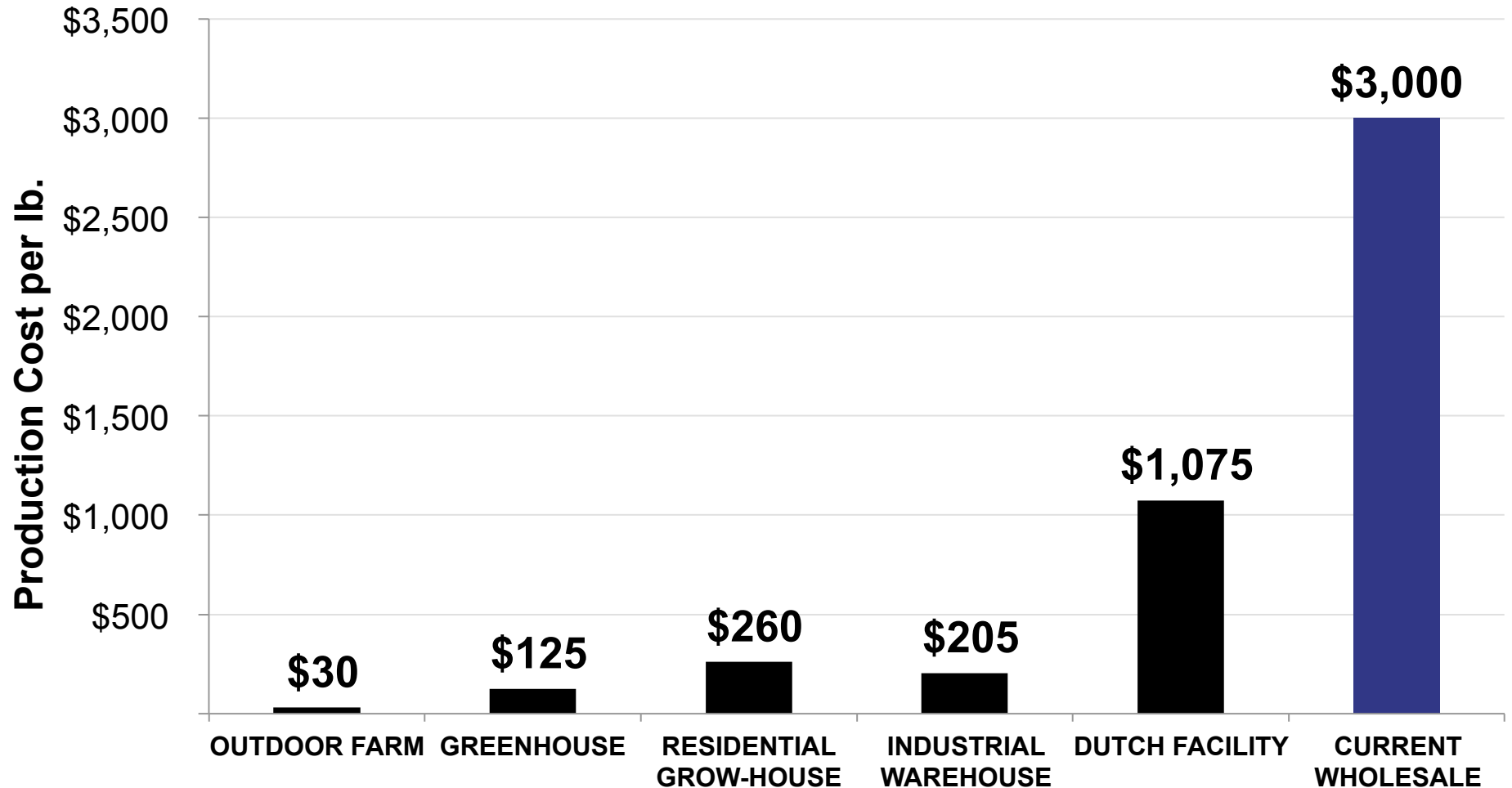
# 3. Production Cost Effectively \$0 with Industrial Farming (National Legalization)

- Production costs
  - \$5,600 - \$18,500 per acre per year for comparable plants  
(Often < \$1,000 per acre for industrial hemp)
- Yield
  - ~500 pounds per year of Sinsemilla
  - Roughly comparable amount of THC in other parts of plant  
(Implies 5-10 typical Midwest farms can supply entire country)
- $\$10,000 / 500 \text{ pounds} = \$20 \text{ per pound}$ 
  - < 1% of current wholesale price**
  - (~5¢ per day for a pound per year user)**

# State & Local Agencies Dominate Marijuana Sales Arrests



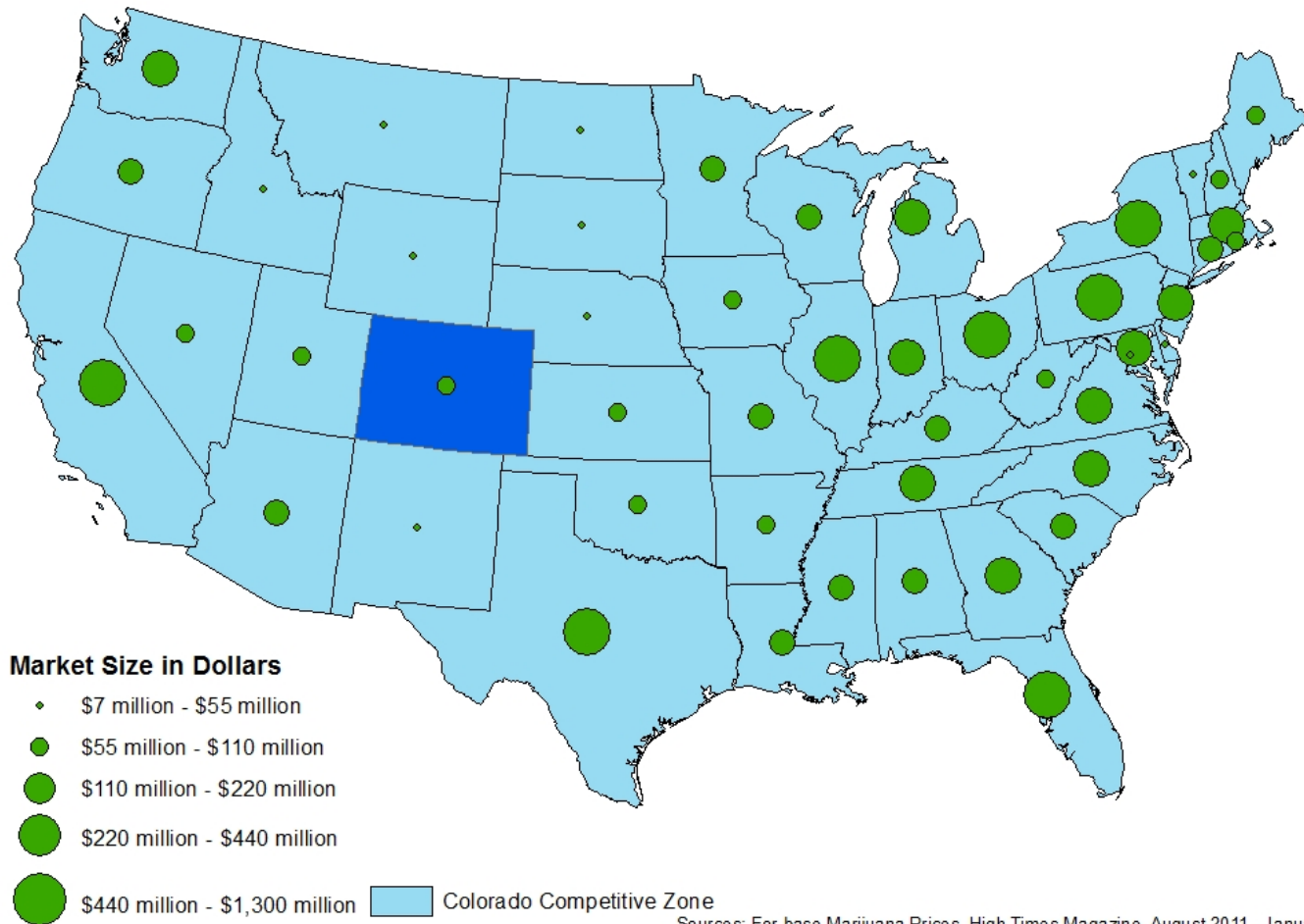
# 4. Production Costs Also Very Low with Grow Houses + Zero Enforcement Risk



Sources: *Altered State?* (RAND 2010), interview with medical marijuana cultivator, Kilmer (2012)

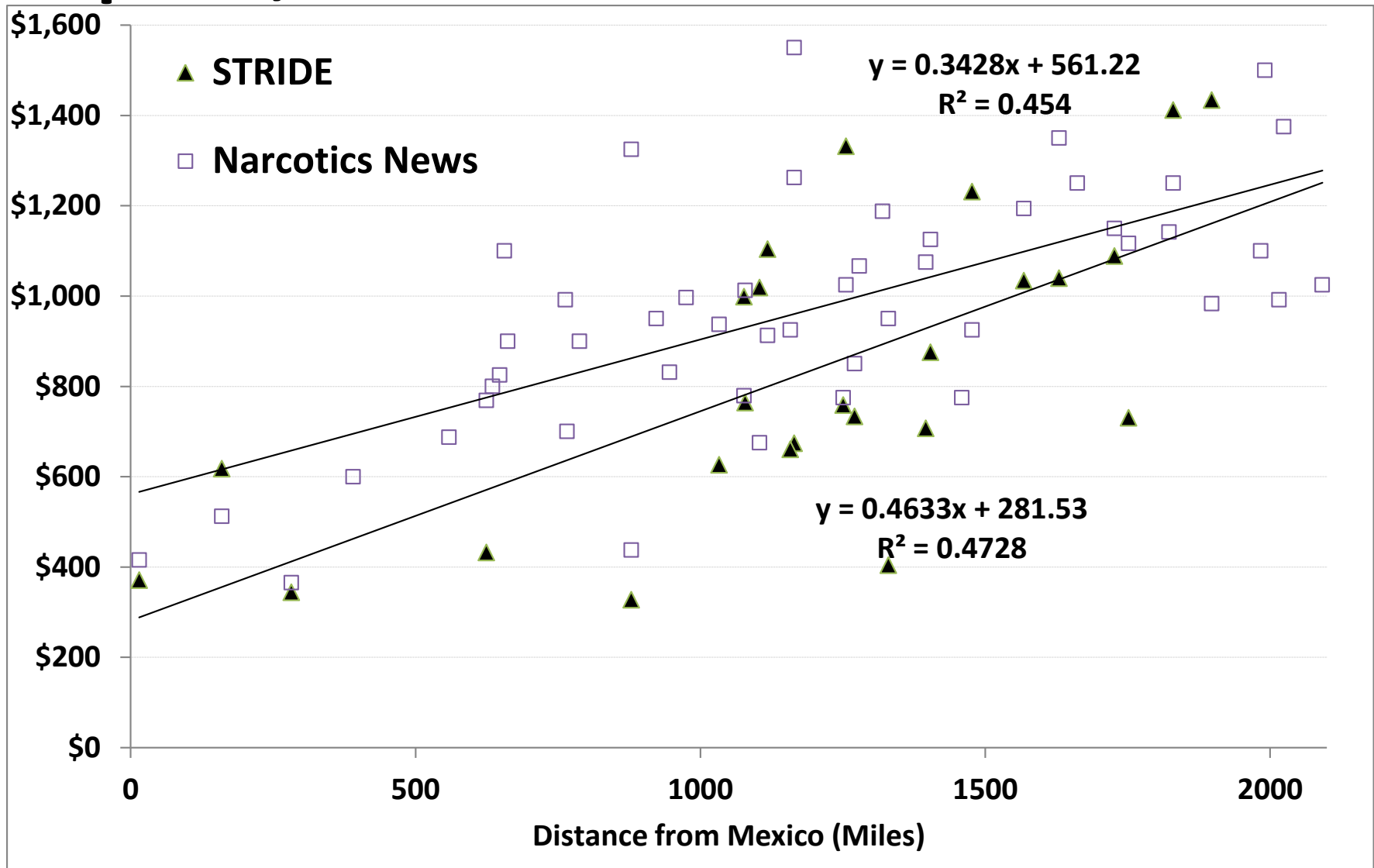


# Potential “Export” Market about 50 Times Greater than In-State Sales

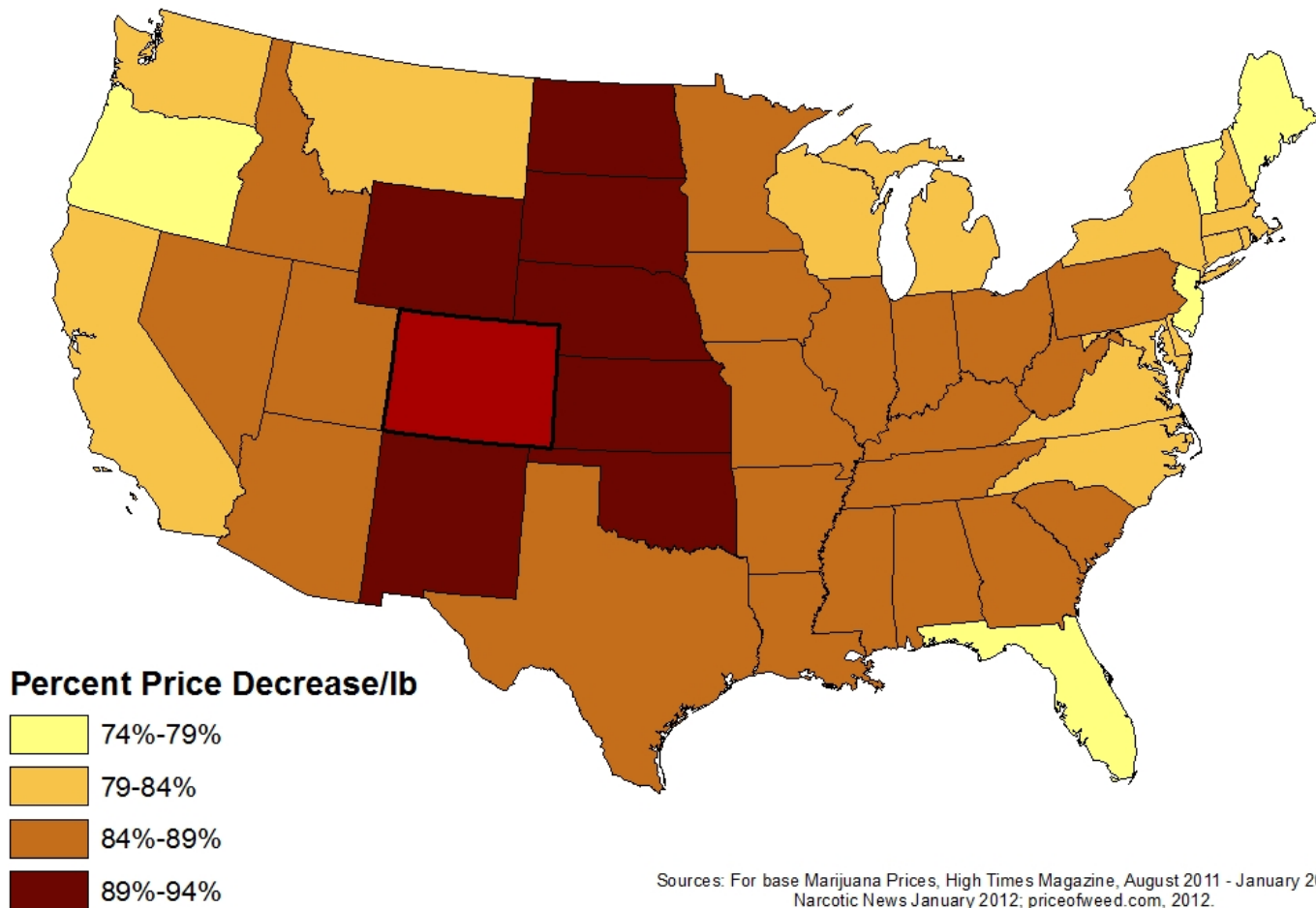


Sources: For base Marijuana Prices, High Times Magazine, August 2011 - January 2012; Narcotic News January 2012; priceofweed.com, 2012.

# Transport Costs now \$400 per Pound per 1,000 Miles Under Prohibition



# 5. If CO Wholesale Marijuana Leaked, Could Depress Prices Across U.S.



## 6. If Block that, Couple of Smurfs Can Match Production of a Grow House

- Amendment 64's Section 5(c) is a “Smurf Protection Clause”
  - IN ORDER TO ENSURE THAT INDIVIDUAL PRIVACY IS PROTECTED, NOTWITHSTANDING PARAGRAPH (a), THE DEPARTMENT SHALL NOT REQUIRE A CONSUMER TO PROVIDE A RETAIL MARIJUANA STORE WITH PERSONAL INFORMATION OTHER THAN GOVERNMENT-ISSUED IDENTIFICATION TO DETERMINE THE CONSUMER'S AGE, AND A RETAIL MARIJUANA STORE SHALL NOT BE REQUIRED TO ACQUIRE AND RECORD PERSONAL INFORMATION ABOUT CONSUMERS OTHER THAN INFORMATION TYPICALLY ACQUIRED IN A FINANCIAL TRANSACTION CONDUCTED AT A RETAIL LIQUOR STORE.
- If a couple each buy an oz. in 12 stores/day  
Then  $2 * 12 * 365 / 16 = 548$  pounds per year  
(same as 1,325 sq. ft. at Toonens' 505 gm/m<sup>2</sup>/harvest)

# 7. Taxes Can Only Partially Offset Decline in Price

- Amendment 64 tax cap is low
  - 15% of wholesale price & only on non-medical
  - Becomes very small if production costs fall
- Furthermore, high taxes encourage evasion
  - CA tobacco tax ~\$2/oz & evasion > 14% (BOE 2007)
  - “Tax” for smuggling across Mexican border is \$20/oz.
  - Preventing price decline might require \$200/oz.
- May need something akin to a state monopoly to stay close to black market prices

# Conclusion: Cannabis Plant's Productivity Will Alter Market Structure

- Basic facts about production
  - 505 gms sinsemilla per m<sup>2</sup> per harvest (Toonens, '06)
  - 4 harvests per year
  - \$8 per gram (current price of sinsemilla)
  - 1,325 sq. ft. growing area in a residential house
  - 10.764 sq. ft. per m<sup>2</sup>
- Imply \$2,000,000 revenue per house per year
- Production & distribution costs can't support current price if there is no arrest risk
- State borders can't support large price gaps

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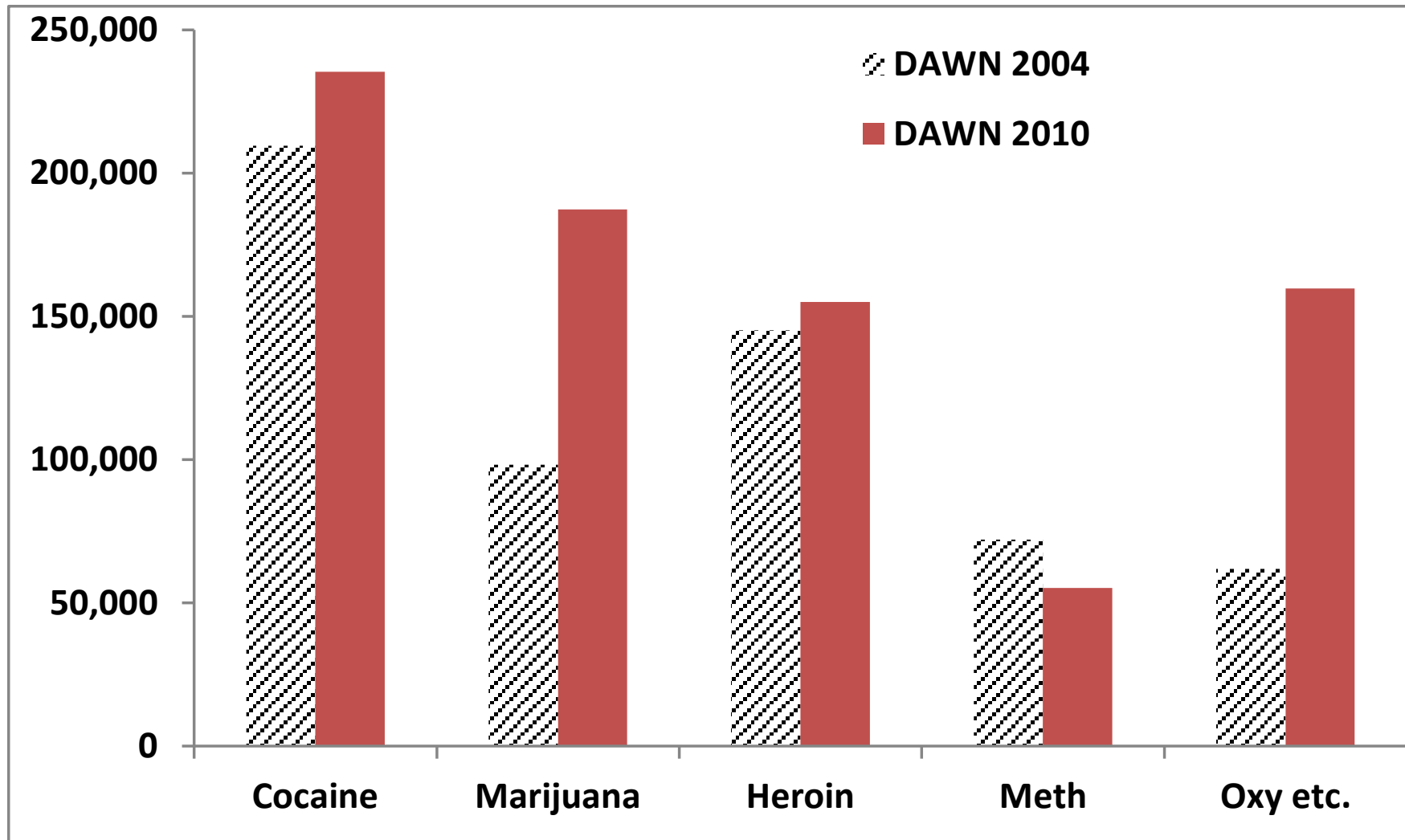
Back up Slides



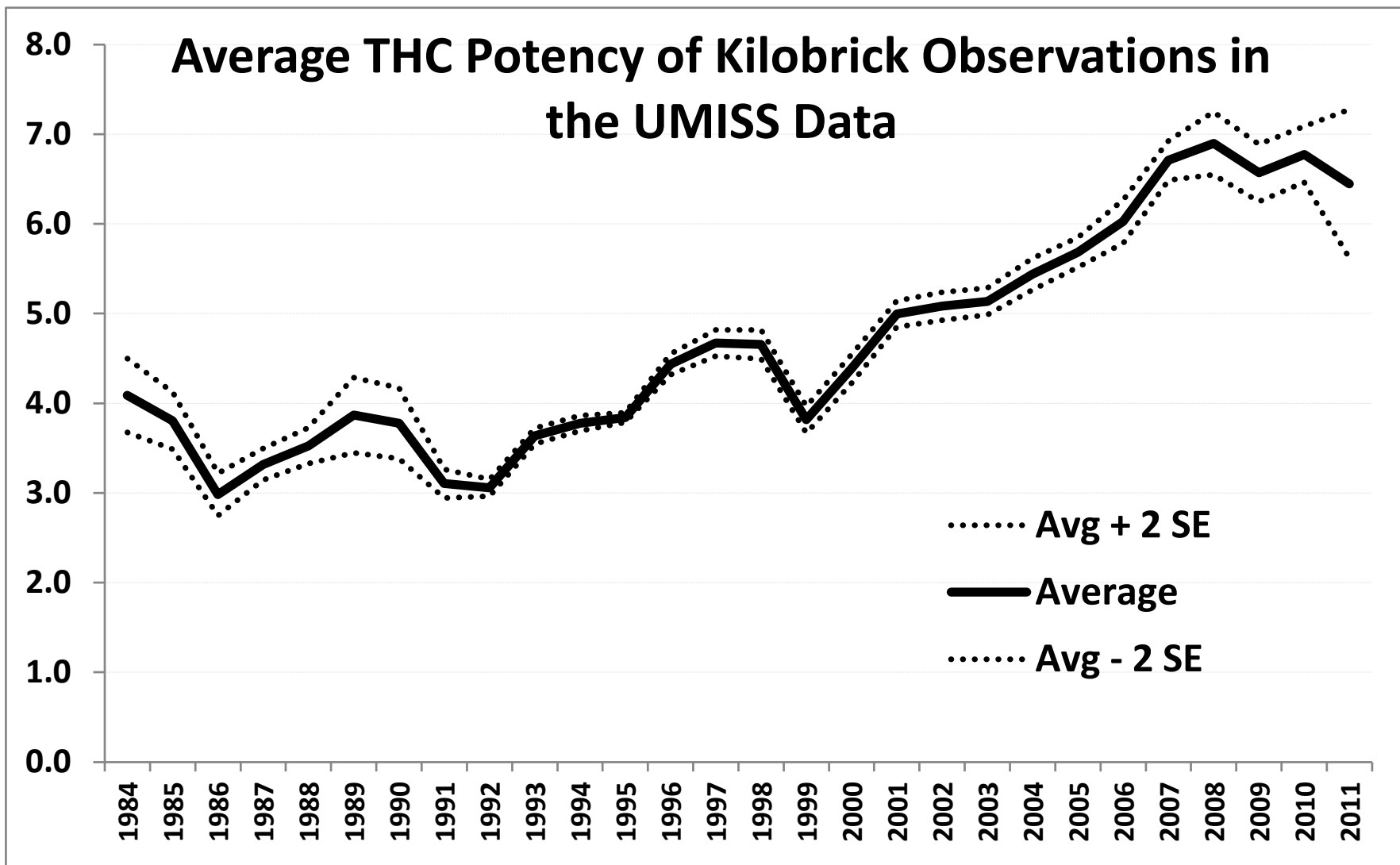
# Even \$50 per Oz. Tax Has No Precedent in Terms of Value per Unit Weight

	Marijuana	Cigarettes	Beer	80-Proof Distilled Spirits	Soda Pop	Gasoline	Ratio of MJ tax to next highest
Units	Ounce	Pack	Gallon	Gallon	Ounce	Gallon	
Tax per Unit	\$50	\$1.88	\$0.78	\$14.10	\$0.01	\$0.65	
Tax per gram	\$1.76	\$0.09	\$0.0002	\$0.0040	\$0.0003	\$0.0002	<b>18.8</b>
Tax per c.c.	\$0.41	\$0.02	\$0.0002	\$0.0037	\$0.0003	\$0.0002	<b>18.8</b>
Tax as % of retail price	50%	47%	7%	11%	31%	21%	<b>1.1</b>
Annual tax for typical daily user	\$644	\$685	\$53	\$80	\$117	\$260	<b>0.9</b>

# Emergency Department Mentions



# Mexican Imports Getting More Potent



# Sinsemilla's Market Share Appears to Be Rising

