

Strategic Management for Growing Farms

Economies of Size and Trends in Agriculture

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What motivates farmers?

- Farming: profit or lifestyle?
- About what will make *some* farms profitable in the future
 - The ones that will be around in commercial ag
- One part of a bigger picture
 - What to do with wealth
 - What to do with human capital (personal skills)

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Economies of size: the driving force

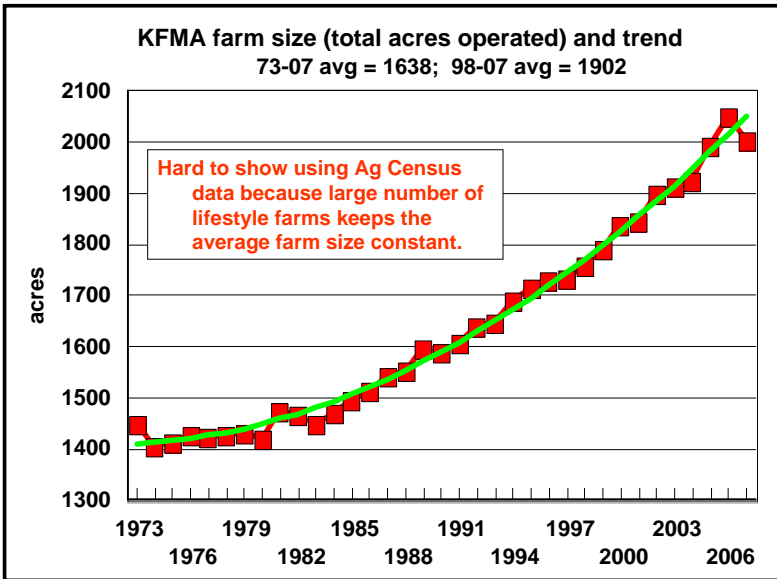
- Per-unit costs fall as a firm gets bigger
 - Essentially about spreading fixed costs
 - May mean higher prices instead

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Is EOS for real?

- Is there a benefit to targeting growth and size?
- Or, is growth an accident of good management (plowing profits back into the farm or business)?
 - Walmart: size, or a good retailing idea??
 - Why don't we observe numerous small packing plants?
 - Why don't we observe many small farms with a common manager?

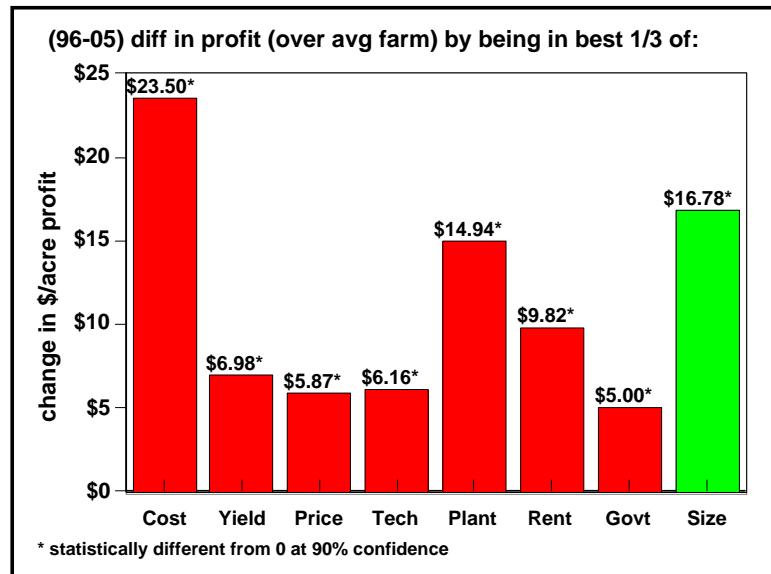
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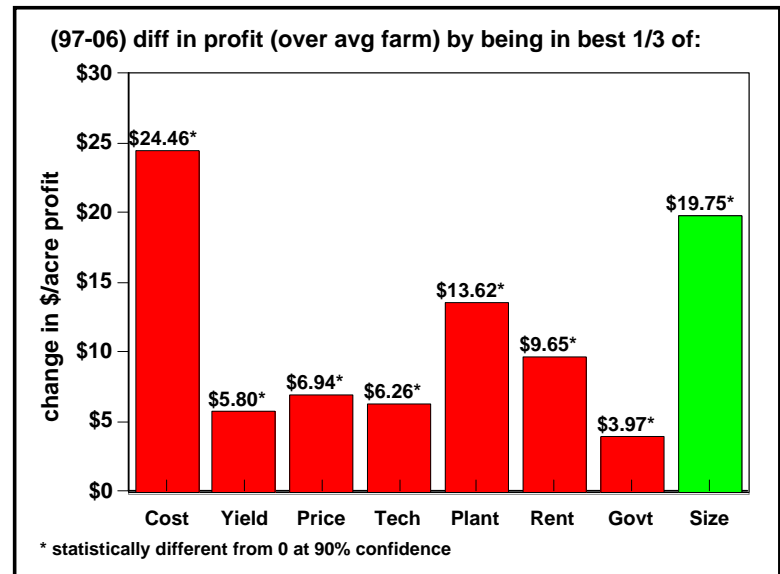
Farm size has been increasing at an increasing rate for COMMERCIAL farms

Is EOS for real?

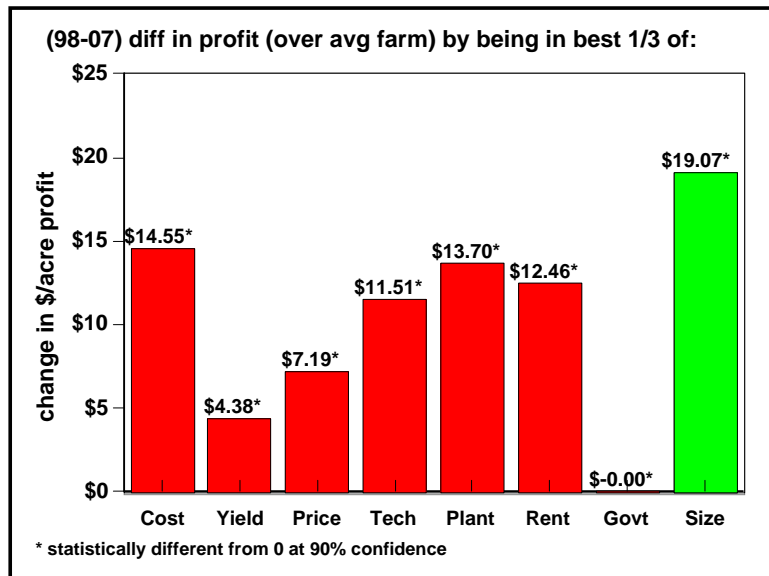
- Hard to distinguish effect of good management and other factors from the effect of size
- Statistical regression is one way to do it
 - After you correct or adjust for the impact of other factors, is there still a positive impact on profit associated with size?



A size effect remains – evidence that EOS is for real



EOS becoming more important



EOS becoming more important still

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Why are large farms more profitable?

- Lower cost is the obvious benefit, but other benefits arise from the research
- Larger farms:
 - Have much lower costs
 - Get somewhat higher yields
 - Get slightly higher prices
 - Farm more intensively
 - Are much faster adopters of technology, for example, less-tillage

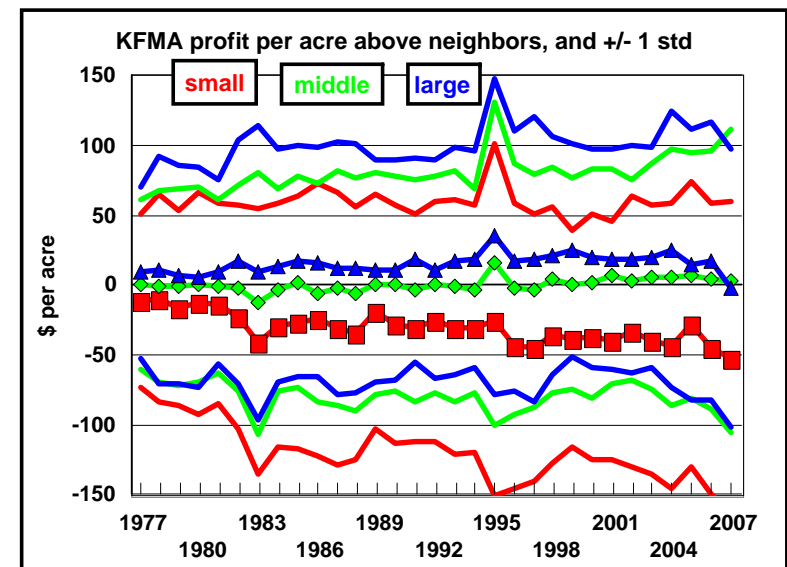
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Large farms are not only more profitable

- The disparity between large and smaller farms has been growing over time.
- Will the traditional **one-family** family farm soon be a thing of the past?
 - The family farm will go on but it will be an extended family

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More important to be good than to be big ...



... so don't use inadequate size as an excuse to be unprofitable

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No right to profit from size

- **Being large does not ensure profitability**
 - Inherited, but poorly managed (inattentive to size and growth issues), farms are an example. Though it might take years, such farms eventually disappear.
- **A poor-managing heir would be better off:**
 - Investing his/her wealth elsewhere
 - Renting the land portion to a good manager

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Changing EOS features across farm size

- **Labor first**
 - Labor is fixed and it pays to be fully employed
- **Machinery second**
 - Bigger machines are less expensive per unit of capacity

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Changing EOS features across farm size

- **Other things third**
 - Management can be spread over still more acres
 - e.g., marketing, hybrid selection, technology evaluation, assessing FSA or crop insurance opportunities
 - Quantity price discounts or premiums
 - Crop sales
 - Machinery and crop input purchases
 - Larger loans mean lower interest rates

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Changing EOS features across farm size

- **Less direct things fourth**
 - Large geographical spread
 - Less yield and profit risk
 - Quicker reliable inferences from farm level data
 - More opportunities to rent additional land
 - Business image: landlords favor large farms
 - Or is it youth, longevity, profitability, technological advancement, and community viability?

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EOS implications: labor

- Show young people they can start in farming as an employee, just like what happens in every other business
 - Will happen as wages climb
- Show established owner-operators how they can transform to employee/partner types without losing face, and without sacrificing wealth and happiness

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EOS implications: equity

- It takes so much to get started today!
- Internal profits (reinvest profits)
- Vertical accumulation
 - Family wealth across generations
 - Diverging goals of heirs and forebears
- Horizontal accumulation
 - Family or non-family contemporaneous equity
 - Minority shareholders have poor protection
- Successful farms will overcome the equity hurdles

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EOS implications: debt

- Capital is equity OR debt
- Debt often is the least-cost capital source
- If equity growth is internal:
 - Farms using debt have an advantage for EOS
- Recommendations to “pay down debt” are a vestige of traditional life-cycle thinking
- Successful farms will consider
 - Divorcing the business from the individual
 - Targeting a debt-to-assets ratio rather than a debt level (think of agri-businesses)

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Trends . . .

1. Increasing consolidation
2. Rapid technological change
3. Greater connections to the non-ag world
4. Increased computer work and paper work
5. More reliance on people with specialized skills

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Will consolidation in *crop production* speed up?

- **Farm machinery:**
 - More like a fixed investment in factory facilities
 - Sophisticated, expensive, for round-the-clock use
- **People:**
 - Skills required are becoming more specialized
 - often requiring different people (like other businesses)
 - Management becomes fixed cost
 - Business continuity means a management team
 - even larger fixed cost
- **Remember, we never saw the rapid consolidation in poultry, swine, and dairy coming either**

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Implications of consolidation

- **Fewer companies, not fewer choices**
 - Product differentiation is a natural outcome
 - Few brands but many classes and features
 - Few grain buyers but many marketing packages
 - Few bankers but many loan/interest rate packages
- **Transactional (market) price less informative**
 - Must improve people skills
 - Farm managers will need to establish interpersonal relationships with other farm managers, so that reliable information on product prices, features, and availability can be gained through communication and consensus.
 - **Think of partners, not competitors!**

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2. Technology

- **Early adopters get the profits**
 - Bid into cash rents and land values
 - Higher rents mean higher costs and non-adopters find themselves going broke in the face of rents they perceive as “too high”
- **Speed of adoption depends on:**
 - A) magnitude of expected profitability
 - B) degree of confidence in the expected profit
 - C) size of investment

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Technology: speed of adoption

- **Big and obvious gains probably non-existent**
- **Small, obvious, gains along with small investment implies fast adoption**
 - “belly-button” or “duh” technologies
 - Roundup-Ready soybeans

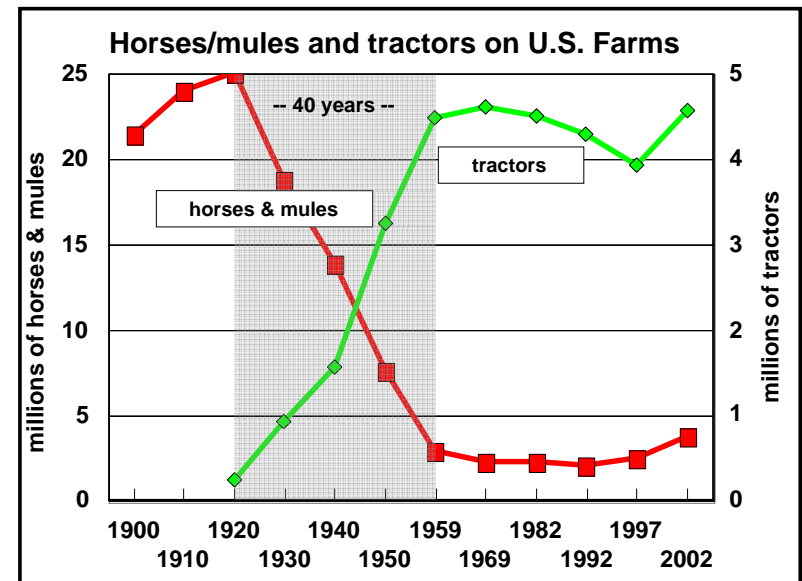
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Other “duh” technologies (most farms)

- Lightbars (GPS guidance)
 - Gains against overlap and marker alternatives are easy to assess
 - Do take a little more investment so less adopted by small farms
- Tractor cabs
 - Hard to measure gain in \$ but know it’s there
- GPS-assisted steering
 - Larger investment than lightbars but still easy to measure advantage
 - Aspects like tractor cabs (reduces stress)

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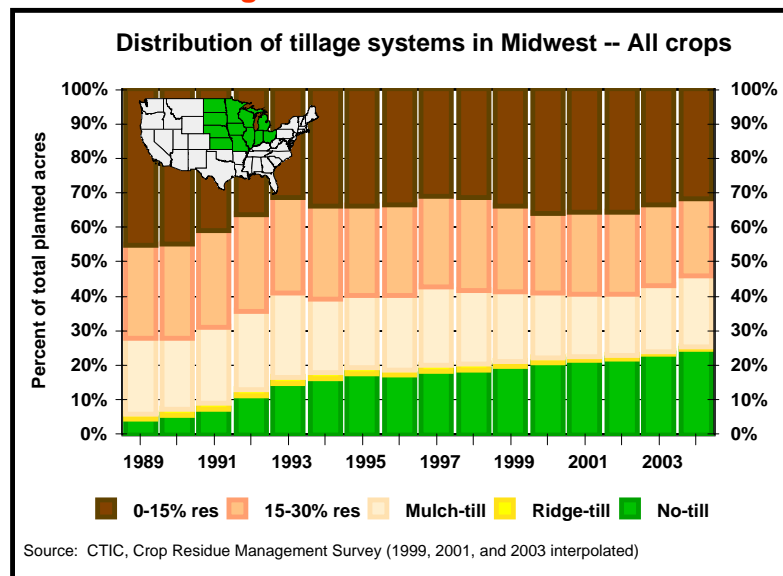
Some technologies aren’t so obvious . . .



Source: U.S. Census of Agriculture

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Some technologies aren’t so obvious . . .



Source: CTIC, Crop Residue Management Survey (1999, 2001, and 2003 interpolated)

Midwest covers much of Corn Belt (much wetter climate)

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Technology: how to get an edge

- Invest in the “duh” technologies quickly
 - You don’t have a choice
- Invest in the slow moving technologies
 - The profits will last for years
- Invest in technologies that DO NOT save labor
 - Most people do not; hence the gains last for years

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4. More paperwork -- actually more computer work

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A. Improved accrual accounting

- Called by different names but allows a farm business to know at any moment in time it's net worth
- Much more than cash accounting
 - Tracks inventory & capital item values
- More frequent than end-of-year
- Forward looking as for upcoming harvest

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B. Better capital asset management

- Much of farm's assets are land & machinery
 - Land's value much more than agriculture
 - Machines are high dollar items
- But, knowing when to own capital assets and when to hire services is equally important

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C. Improved production data management and analysis

- What do you do with reams of yield monitor or individual animal data?
- Do you know the profitability of individual fields and farms?
- Do you have the ability to perform and interpret on-farm research?

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D. Better day-to-day decisions on complex issues

- Crop insurance is an example
 - Many policies and choices
 - Talking to neighbors won't cut it
- Land rental agreements is another example
 - New rotation and tillage programs complicate
 - Land rents can deviate by:
 - Soil fertility
 - Field size & shape and access
- Need to be able to objectively and numerically analyze decisions
 - “Management by numbers”

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Getting an edge with more paperwork

- Office work must be valued
- The world runs on computers
 - Get yours running and keep it that way
 - Businesses underestimate cost of support
- The world runs on spreadsheets!
 - You or someone you're close to better understand

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5. Need folks with specialized skills

- Financial management
 - Agricultural economics and accounting
- Production management
 - Agronomy and animal science
- Machinery understanding and management
 - Agricultural engineering
- Spatial data management
 - Geography
- Computer specialists
- Legal counsel
- Production ag is becoming a people world

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Folks with specialized skills

- Recognize the need
- Do specialized consultants exist
 - Are they worth their pay?
- In house?
 - Should I get trained?
 - Should an employee get trained?
 - Formal degree program, workshop, or what?
 - Should I hire ready-made folks?

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Rapid Growth

- Be absolutely sure that someone is in charge of keeping track of the economics and allocates the necessary time to do so!
- Someone has to be sure to keep electronics and computers working
- If you're going to expand rapidly, hire extra people whether it looks like they will pay or not. Initially, don't think like "but what will I have this guy do in the off season?"

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Rapid Growth

- Do all major planning in the off season
 - On farm research layout and analyses
 - Hybrid selection
 - Machinery decisions
 - Rental arrangement negotiations
 - Time to understand fields/farms interested in
 - Field size, shape, and location matters
 - Financial planning and loan applications
- Don't "go to Florida," but rather use this time for detailed in-depth analyses and planning
- Do the planning WITH the relevant employees

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Rapid Growth – Data

- Automate data collection (less hands-on)
 - Precision ag
 - Monitor from a distance (grain bins, irrigation)
 - Effective software or spreadsheets?
- Automate controllers (less time deciding)
 - Fertilizer, seeding (precision ag)
- I'm not particularly optimistic about integrating economic and agronomic data in software – maybe just hire more office help

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Rapid Growth – Logistics

- Progression of field operations?
- Big machines – a lot of time not running
 - Think of moving from field to field
 - Do pickups have hitches?
- Maps for all involved?
 - Employees, custom operators, etc.
- In-field efficiency
 - Boom-section shutoffs?
 - Field size and shape matters
 - Winter analyses will guide your decisions here

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Rapid Growth – Communication

- Embrace the new ways
 - email, cell phones, text messaging, web
 - Business band radios?
 - Wireless internet on the tractor?
- Email each other on the farm
 - Saves repeating the story over and over when folks cannot always be together
 - Eliminates errors
- Email business associates for same reasons
- Have other big farms in your email list!

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Rapid Growth – Landlords

- Newsletters?
- Website?
 - Password protected perhaps (for specific folks)
 - Lots of pictures
- Stay flexible
 - Many landlords will better appreciate a hardcopy letter or a personal visit (know your landlord!)

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Rapid Growth – Keeping up

- The agronomics cannot suffer
 - If you get behind, hire it done, but be sure possible arrangements have been made
- Do not pinch pennies and over-analyze in-season
 - Trust that the few bad seat-of-the-pants instinctual decisions made to keep things moving won't negate the careful planning done in the off-season
 - Applies also to opportunities that arise then

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Rapid Growth – How Get There?

- Low tech
 - Hire many low-paid immigrants
 - Typical of livestock, where jobs clearly defined
 - Typical of past crop farms with simple machines
- High tech
 - Hire fewer, higher-paid, more manager types
 - Partnering relationships with high-paid folks
 - More typical of today's crop farms

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Rapid Growth – How Get There?

- Higher-than market rents
- Excellent reporting to banks, investors, employees, and landlords
- Pay high wages and think of perks

- Social issues
 - Emphasize that employees are good citizens and often better off than before
 - Talk about acres or dollars per person involved
 - Often you're all just employees

- Only go there if you love people!

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Questions ???



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