Rebuilding Markets for American Wool: Findings of a U.S. Wool Industry Stress Test

Summary of a presentation to the

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Insight for Action

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First Stage Wool Processing in the U.S

- The American Wool Council (AWC) retained Market Solutions LLC to conduct U.S. industry research on rebuilding markets for American Wool. **Objectives.** The project examines the current situation and future prospects for first stage wool processing and the wool supply chain, including: 1) Scouring, carding, combing/top making in the U.S. with large, medium and small scale mills, and options and costs vs. international customers and competitors; 2) Developments in U.S. spinning, textiles and apparel markets for wool, including commercial and government market opportunities; 3) Suggests an Action Plan for American Wool Council (AWC) support to help rebuild the domestic market for American wool; and 4) Resource requirements and potential sources.
- **U.S. Wool Supply Chain: Resilience, Threats, Opportunities. U.S. wool production** has declined 26% since 2010 and is down 5% since 2019. Production is 22.7 million lbs. on a raw (greasy) wool basis, 11 million lbs. on a clean wool basis. **Imports** of wool and wool top are forecast to recover to 5.5 million lbs. on a clean wool basis in 2024, the second lowest since 2010. **Estimated Mill use of wool** in the U.S. declined by half from 2010 to 2018. It has remained flat, at 10 million clean lbs. annually since that time, except for a drop in 2020 due to COVID related plant closures. **U.S. wool exports** forecast to reach 71% of production, 8.5 million lbs. in 2024. **Carryover stocks are now below 2010, but more than doubled since 2019.** Stocks grew from 7.4 million lbs. on a clean wool basis, to 13.7-16 million lbs. during 2020 to 2023. **Stocks continue to weigh on prices, underscoring the urgency of finding solutions to help move more American wool in both domestic and export markets.**
- **Global textile fiber use has grown and shifted** over time. More synthetics are being used, but also more cotton and cellulosic fibers. **Global Wool use remained flat, at** 1.0 million metric tons (mmt) or 2.2 billion lbs annually during 2010 – 2019. It fell to 0.9 mmt with COVID in 2020 and has not yet recovered. At the same time, during **2020-2023, total world textile fiber use increased by 5.4 mmt, six times total wool fiber use.** If Wool can capture a tiny fraction of growth in total fiber use, it can have a major wool market impact.
- **First Stage Wool Processing is a key requirement for spinners, knitters, textile and apparel manufacturers to be able to feature American wool**. The industry needs more competitive processing and supplies. Capturing only a small fraction of growth in fiber use can, potentially have a major impact on the profitability of American wool production and the incentive to rebuild supply and demand.
- **Large Commercial Mills remaining in the U.S.** include: Bollman, San Angelo, TX, with scouring capacity of 17,000 lbs./day, or about 4 million lbs./year; and Chargeurs (USA), Jamestown, SC, with scouring and top making capacity of 40,000 lbs./day or about 10 million lbs./year. Minimums for processing are generally 1,000 to 25,000 lbs of greasy wool.
- **Medium and Smaller Mills include more than** 80 companies in the U.S. which scour 1 fleece to 50,000 lbs.+ per year; An ASI survey found that on average they scour 13,794 lbs./year, but 80% scour less than 10,000 lbs/year. Small and Medium sized mills are Important to local and regional economies/Fibersheds. Some send to wool to larger facilities for scouring and combing, so they can better use spinning, weaving, making, manufacturing capacity; and for blending. Together they have 1.3 – 2 million lbs./year total capacity. A total of about 1,600 small and medium mills would be required to scour the entire U.S. wool clip.

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Market Opportunities for American Wool

- **Markets for American Wool.** Domestic commercial and military market requirements and the needs of domestic small mills required about 9.1 million lbs. of greasy wool to be scoured in 2023. Exports were about 13.6 million lbs. of greasy wool. The U.S. has limited supply of finer wools suitable for year round and next to skin applications. Mercerization and other technologies may have the potential allow more American wool to be used for these uses.
- As with local foods, some **U.S. consumers** are Interested in: local fiber, traceable, independently verified fiber; knowing where clothing and home goods come from; and stories of the farmers and ranchers, their livestock, land and labor management practices, soil and land benefits of grazing, climate impacts, etc.
- Others are most interested in technical performance and other benefits of American wool. There is growing interest in new wool uses, including Athleisure and outdoor uses of wool for next to skin and year round wear. Technologies like Superwash and Mercerization make wool garments washable and make wools feel finer for a given micron level, increasing potential markets.
- **Understanding Factors Driving Wool Demand.** Identifying potential target consumers and understanding what motivates their wool-based preferences and purchases can help guide American Wool Council (AWC) market development strategies and activities to educate retailers, brands, designers, makers and manufacturers. AWC support can help market the wools that producers have; and should support efforts to produce the wools that markets want and will pay more for.
- **Segmenting the U.S. Market for Genuine American Wool**. It will be useful to assess market opportunities and market development approaches to address five different market segments:
  - **Approachable Luxury**. Fine fibers, yarns, textiles, apparel and accessories with a story.
  - **Great Outdoors and Sports.** Performance that is worth paying for.
  - **Military Grade**: Defenders and First Responders. Berry Amendment and beyond.
  - **Home and Industrial Goods**. Bedding, Decorative goods, Dryer Balls and Pellets, but also insulation, upholstery, carpets.
  - **Small Scale/Craft.** Scoured, Carded wool, Yarns, Knitting, Weaving, Apparel and Home Goods supporting local and regional farmers, ranchers, mills, artisans and craft groups.
- **U.S. Direct Wool Exports**. The United States is a net exporter of greasy wool. There is a 3 million lb. projected trade surplus in direct U.S. wool exports over imports for 2024. U.S. greasy wool exports are heavily dependent upon sales to China at a time when renewed trade conflicts and tariffs seem likely. AWC's export program has been working to help diversify export markets. Export market development requires customers who can process raw wool because of cost and quality challenges of first stage processing costs and quality in the U.S.

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Opportunities with U.S. Apparel Brands & Retailers

- **Wool Exports and Imports through Yarn, Textiles, Apparel, Home goods.** The U.S. is a net importer of 319 million lbs of raw wool equivalent through apparel, floor coverings, home goods, hats and yarn. The U.S. is also a net exporter of 2.5 million lb. of yarns, threads and fabrics. Some go to countries with which the U.S. has Free Trade Agreements (FTAs). These agreements often require use of U.S. or local yarn in textiles and apparel imported to the U.S. under preferential tariffs. **Substituting products made in the U.S. with American wool for only one percent of wool textile imports would potentially double domestic commercial wool use.**
- **U.S. Apparel Imports, Supply Chains & Issues.** The U.S. remains the largest single country importer of apparel in the world. The fashion industry creates many jobs in the U.S, but manufacturing has shifted to cut and sew and knitting operations in other countries with low cost labor. **Procurement decisions are often made by fashion brands and retailers in the U.S. for imported textiles and apparel.**
- **Before COVID, some re-shoring of yarn, textile and apparel manufacturing was beginning.** Modern technology, competitive electricity and increased flexibility to respond to market changes was expected to offset higher cost U.S. labor. With new interest in import tariffs and other actions to stimulate U.S. manufacturing, 2025 should offer opportunities to start rebuilding interest in American wool.
- **A 2024 benchmark survey for the U.S. Fashion Industry Association (USFIA)** asked U.S. based Apparel Retailers and Brands about their top concerns and sourcing plans. Top concerns, in addition to the U.S. economy, include: Forced labor in their supply chains; Shipping delays and supply chain disruptions; Political risks related to sourcing; and Protectionist U.S. trade policy. To address these concerns, respondents said they are working to better understand their supply chains, including the sources of fibers and yarns used in their finished products and other options for sourcing.
- **Fashion Industry Changes in Apparel Sourcing and Plans: 2023, 2024, 2026 Outlook. China remains the overall top source of apparel of those surveyed**, and all respondents still manufacture some products in China, but they say that they are diversifying their sourcing. Almost all fashion companies with more than 1,000 employees say they are sourcing from ten or more countries.
- **Sixty percent say they no longer use China as their top supplier**, compared to 25-30 percent before the pandemic. Nearly 80 percent said they plan to reduce their China sourcing further over the next two years through 2026. The biggest increase in sourcing is from **India**, now tied with Vietnam as the second largest U.S. supplier. **Guatemala, Mexico and Egypt** joined the top ten sources for the first time in 2024.
- **Western Hemisphere Sourcing**. More than half of retail and fashion brand buyers surveyed plan to increase sourcing from members of the **Central America- Dominican Republic Free Trade Agreement with the U.S. (CAFTA-DR).** Three out of four said that sourcing textile raw materials, including wool, is usually a bottleneck limiting manufacturing in the Western Hemisphere, including in the U.S. Two thirds of respondents source from **Mexico and Canada**, up from 40% in 2019-20.

Re-Shoring, Other Opportunities and Risks

- **U.S. Apparel Sourcing and Re-Shoring. Almost one in ten fashion retailers and brands say they expect to increase their U.S. sourcing over the next two years.** Four out of ten fashion companies say source 1% to 10% of their apparel from the U.S.; One in three sources yarn from the U.S.; Only 15% source fabrics from the U.S., down from 24% in 2023.
- **Strengths and weaknesses of the U.S. and other Sourcing Origins. The U.S. is highly rated** on **speed to market, minimum order requirements, risks of labor and social requirements, environmental requirements and geopolitical risk. It is r**ated average on flexibility and agility, and w**eakest on sourcing cost** and vertical integration. China rates most highly on these factors.
- **Challenges and Opportunities Due to Importance of China to Other Sourcing Countries.** Fashion Brands and Retailers say they plan to shift manufacturing to other Asian markets from China to reduce risk. However, most of these countries rely heavily on China for the yarns and fabrics they use. For example, China supplied 70% of the textiles and 66% of the yarn used in Vietnam in 2022. Vietnam also imported almost 10,000 mt (22 million lbs.) of wool top from China. With new yarn spinning investment coming online in 2025, Vietnam's wool top requirements are expected to double, creating a need for cost and quality competitive first stage processing.
- **First Stage Wool Processing in the United States.** U.S. Commercial processors are currently running below capacity, but together with small and medium mills, could potentially scour 15-16 million lbs. of greasy wool annually. **Comparative International Scouring and Top Making Costs.** Costs of scouring and top making at U.S. commercial mills are high by international standards due to low volumes, old equipment and high costs. Costs at small and medium sized processors are much higher, leading some to send wool to commercial facilities for scouring and top making so that they can operate their spinning, dyeing, knitting and weaving at higher volumes.
- **High level of Risk in Current Situation for Commercial Scouring and Top Making in the U.S. Processors are operating** sharply below capacity and likely below the volumes required for sustainable profitability. Their owners have other options to meet the needs of their other businesses. But their customers do not. **Without them, worsted spinners and textile manufacturers would not be able to supply the Berry Amendment military business or other U.S. commercial businesses.**
- **Larger volumes and investments in plant and equipment upgrades could potentially help make American wool more competitive for yarn, fabric and home goods manufactured in the U.S. and for exports of scoured wool or top.** Commercial Scale Wool scouring costs in the U.S. depends on quantity scoured, yield, preparation, other factors. Costs of scouring and top making are in the $.50 to $1.50 range per lb. of greasy wool. Minimum order sizes in the 1,000 lb. to 25,000 lb. range. Small and medium sized mills, minimums are often in the 10 to 50 lb. range. Scouring costs are much higher, generally $4.00 to $8.00 per lb. of greasy wool.
- International scouring and top making costs are generally significantly lower than in the U.S., and quality is reportedly higher . In Europe, when available costs have been in the $0.46 to 0.75 per lb. of greasy wool range, depending on the yield (ASI). In **Egypt and Tunisia** costs $0.10-.15 per lb. of greasy wool. In **China and New Zealand** scouring costs sharply lower, $.06 and $.08 per lb. of greasy wool respectively. NZ wool tends to have higher yields and low vegetable matter (VM).

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Other Opportunities and Risks

- **Small and Medium Mills are one part of a solution** for rebuilding the market for American wool, but will not substitute for large scale commercial wool processing.   Small and medium mills play an important role in providing services and market outlets for local sheep producers, and an opportunity to add value to wool and generate income locally. They often work with state and local sheep and wool associations, groups like Fibershed, spinning, knitting and weaving groups, educational organizations, designers, makers and retailers.
- Technical and marketing support could potentially help grow volume and profitability. This would be staff and resource intensive. A number of small and medium mills have already been very creative in effectively mobilizing Federal, State and local government resources, along with Foundation and commercial funding, to help them invest and grow. Some receive technical support from partnerships with Universities and extension programs.
- **Commercial Markets and Opportunities.** The clothing and household goods market has been seeing an increase in demand and supply of niche premium clothing and apparel brands, some featuring American wool. The American Wool Council features 64 designers, brands, makers and manufacturers of apparel, accessories, home goods, yarn and other products featuring American wool. Some use the AWC certification mark indicating “Made in USA with American Wool”
- For Certification and Verification programs, getting Brands to sign on and offer a consistently available line of products has remained a challenge.   Both the Textile Exchange Responsible Wool Standard (RWS) and Fibershed/Climate Beneficial program have staff designated to coordinate with Designers, Brands, Makers and Manufacturers to get them to commit to featuring wool and other fibers certified by their programs.   Many offer very limited ranges of products featuring the certified or branded wool, and do not offer them on a consistent basis. The challenge is to build on these “capsule collections,” to expand the range of products offered and get featured wool products to become more regular offerings.
- **Made in USA and International Sourcing Opportunities.** U.S.-based Fashion Industry Retailers and Brands make important commercial sourcing decisions in the U.S. As noted above opportunities for manufacturing in the U.S. are small but with potential for growth. International Sourcing can also present opportunities, especially for American manufactured wool yarns, and potentially textiles, for manufacturing in countries that have free trade agreements (FTAs) with the United States.
- There have also been benefits in the commercial apparel market to ASI work with the U.S. military on product development. Superwash and Mercerized wool development have benefitted from military research support and interest.
- **Military and Other Government Markets**. ASI has long worked to maintain sales of American wool domestically through military dress uniforms, blankets, pea coats, socks, berets and other items. ASI estimates this accounts for 15% of American wool use, or 3.4 million lbs. on a greasy wool basis in 2023.
- Purchases by the U.S. government are governed by several standards: The Berry Amendment requires U.S. Military textiles and apparel to use U.S. sourced fibers, yarns and textiles. This requires wool top that is scoured, carded, combed in USA wool, making U.S. first stage processing capabilities critical. The Kissell Amendment and Buy American standards provide additional opportunities, but do not necessarily require use of U.S. origin fiber, making cost competitiveness more important. The Wool industry is more reliant on Berry Amendment purchases than the textile industry overall. High cost first stage wool processing is likely one important contributing factor.
- **Threats to Continued American Wool Use by the U.S. Military. Domestic Non-Availability Determinations (DNADs)** have affected worsted wool and wool blend fabrics for military uniforms. U.S. yarn spinners and textile mills are working and investing to address the issues. ASI has worked to try to ensure that any imported fabric still used American wool.

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An Action Plan to Rebuild Markets for American Wool

- **Threats and Potential Solutions.** All worsted wool spinners and worsted textile manufacturers in the U.S. depend on Chargeurs (USA) for wool top using American wool to be Berry Amendment compliant. If Chargeurs were to break down or close, no backup source of Berry Amendment compliant wool top to meet the needs of military or commercial customers.
- **Upgrading First Stage Processing and Building Demand For a More Competitive Wool Supply Chain**. The entire wool supply chain is dependent on wool scouring and top making to survive. World class, premium quality and cost competitive first stage processing could help to preserve current military and commercial markets for American wool and expand opportunities as well. While these are private businesses, there is a history of sheep and wool producer-industry partnerships to benefit all stakeholders.
- **Potential Options:**
  - **Chargeurs' combing plant could be upgraded** to world class quality and cost standards;
  - **Bollman's scouring facility could be upgraded** and potentially add wool combing capacity; and/or
  - **A new scouring and combing plant could be constructed** at a location close to major wool production with access to water, power, waste treatment, labor and transportation.
- **An Action Plan to Rebuild Markets for American Wool.**
- **ASI/AWC leadership will be required to help ensure demand to pull products through the supply chain** and justify needed investment in becoming world class cost and quality competitive. This will help to make downstream spinning, textile and apparel manufacturing more profitable and contribute to on-shoring and near-shoring.
  - **A Steering Group including representatives of the entire supply chain** will be required, including wool producers, warehouses and merchants, first stage processors, spinners, textile and apparel manufacturers, brands and retailers.
  - **What Will Be Required?**
    - A plan for next steps.
    - Options to Build Demand and Cost and Quality Competitive First Stage Processing.
    - Partnerships along the supply chain to make it work, including with brands and retailers.
    - Resources, including ASI staff and funding to develop and manage a domestic market development program.

An Action Plan to Rebuild Markets for American Wool

Rebuilding American Wool Markets Through Actions to Address both Supply and Demand.

- **Wool Production that Customers Want and Will Pay For**
  - **AWC support should help market the wools that producers have; and**
  - **Support efforts to produce the wools that markets want and will pay more for**.
  - Brands, Plan for Certifications and Traceability
- **Understanding Consumer Demand:** The 2025 American wool customer:
    - Attitudes, Products, Preferences, Purchases, Usage, Messages that will sell.
  - Educating Producers and the Supply Chain on Findings
- **Segmenting the U.S. Market for Genuine American Wool**.
  - **Approachable Luxury**. Fine fibers, yarns, textiles, apparel and accessories with a story.
  - **Great Outdoors and Sports.** Performance that is worth paying for.
  - **Military Grade**: Defenders and First Responders. Berry Amendment and beyond.
  - **Home and Industrial Goods**. Bedding, Decorative goods, Dryer Balls and Pellets, but also insulation, upholstery, carpets.
  - **Small Scale/Craft.** Scoured, Carded wool, Yarns, Knitting, Weaving, Apparel and Home Goods supporting local and regional farmers, ranchers, mills, artisans and craft groups
- **Commercial Market: Designers, Brands, Makers, Manufacturers, Retailers Featuring American Wool**
- **Military and Other Government Customers (Berry, Kissell Amendments, Buy American)**
- **First Stage Processing: U.S. as a high cost producer of scoured wool and wool top**
  - **Large Commercial**
  - **Small and Medium Mills**
- **Need for World Class, Cost and Quality Competitive First Stage Processing**
  - **International Experience and investments for Competitiveness**
  - **Options for the U.S.**
  - **Regular demand and volume required**
- **Building Demand Pull – With Designers, Brands, Makers, Manufacturers and Retailers**
  - **AWC led Wool Supply Chain Steering Group**
  - **Strategy**

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An Action Plan to Rebuild Markets for American Wool: Potential Resources

- **Potential Resources to Help Maintain and Rebuild Markets for American Wool**
  - **Wool Trust Funds**
    - Wool Research, Development and Promotion Trust Fund
    - Agriculture Wool Apparel Manufacturers Trust Fund
  - **National Sheep Improvement Center Grants**
  - **USDA Grants and Loans**:
    - Value-Added, Climate Smart and other Rural Development Programs.
  - **State and Local Funding Support**.
  - **Wool Innovation Support**.
  - **Other Potential Financing Sources**: Commercial loans, Foundations, Venture Capital, Sheep Venture Company, Checkoffs, USDA/FAS Export Programs: MAP, FMD, QSP, RAPP.
  - **ASI/AWC Activities and Resources** to Support Rebuilding American Wool Markets.

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