Designing Kilns for Firewood

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Requirements

• High temperature quickly
• High air velocity through the wood pile
• Ability to monitor and record wood core temperature
• Simple operation, low cost equipment
Why kiln dry firewood

• Faster than air drying
• Allows for quicker turn of inventory
• Ability to heat treat kills bugs and satisfies “export” to other states
• Reduces mold in bundled firewood
• Reduces weight for shipping
Why *not* kiln dry firewood

- Capital cost is very high. Many firewood producers have simple, relatively low cost methods and equipment.
- In addition to kilns, you need a heat source, land, power, baskets, dry storage, etc.
- Local markets may not demand HT or dry wood.
Can I dry firewood in my kiln?

• Simple answer: Yes, but…..
• Do you have a supply of firewood?
• How will you load and unload?
• Where will you store dry wood?
• Do you have spare kiln capacity
• Do you have enough heat and airflow; can you get air and heat through the wood instead of around it? Can you achieve HT requirements if needed (160 degF core for 75 min.)
• How will you market the wood? Wholesale? Retail? Bundled?
• Consider providing the service, instead of the product
Challenges

- State of Vermont
- Two boiler systems feeding the kilns
- Noise restrictions due to close neighbor
- Seasonal operation only due to close neighbor
The simple way
The Process
The old kilns
Results

- Increased production with larger kilns and same drying time
- Satisfied noise situation using variable frequency drives
- Easy operation and good records of wood core temperature
- Phytosanitary certification from State of Vermont to satisfy other states
Enjoy life and hope the lumber market improves!
Any questions?