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Agricultural Outlook Forum

Presented: February 16, 2006

BIO-BASED PRODUCTS: AN EXAMPLE OF U.S. AIR FORCE INTERGRATION

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Bio-Based Products: An Example of US Air Force Integration

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Seymour Johnson AFB



4th Fighter Wing Mission

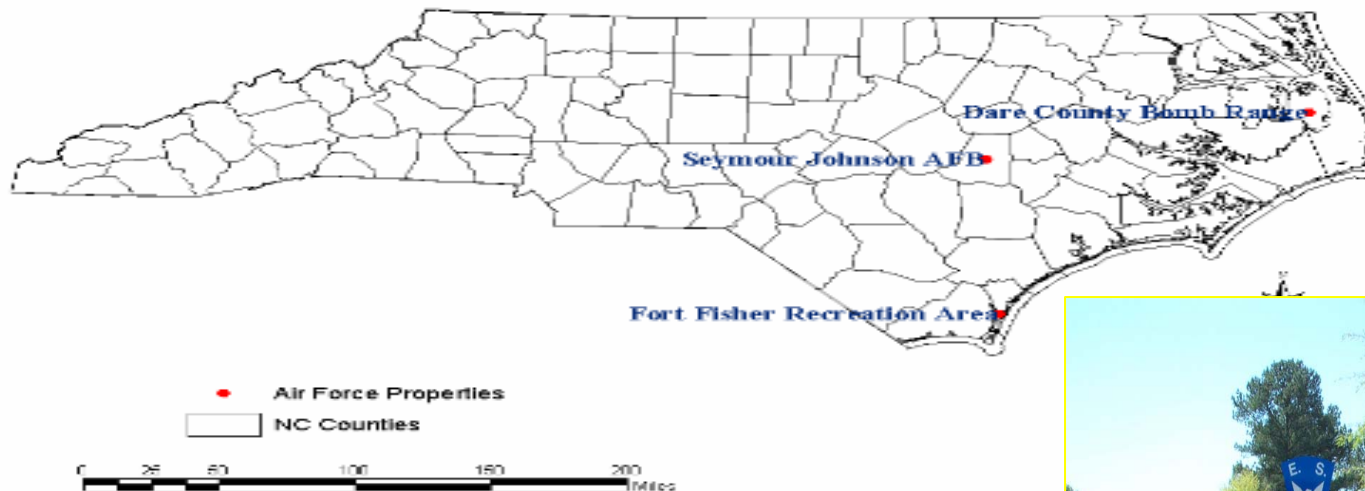
Preparing And Providing Professional Expeditionary Air Forces
To Fulfill Any 4FW Tasking ... Anytime, Anywhere

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Seymour Johnson AFB

Seymour Johnson AFB Properties in North Carolina



- Installation Population: 15,000 +
- Main Base Occupies: 3,200 + acres
- DCBR & FFRA: 46,000 + acres





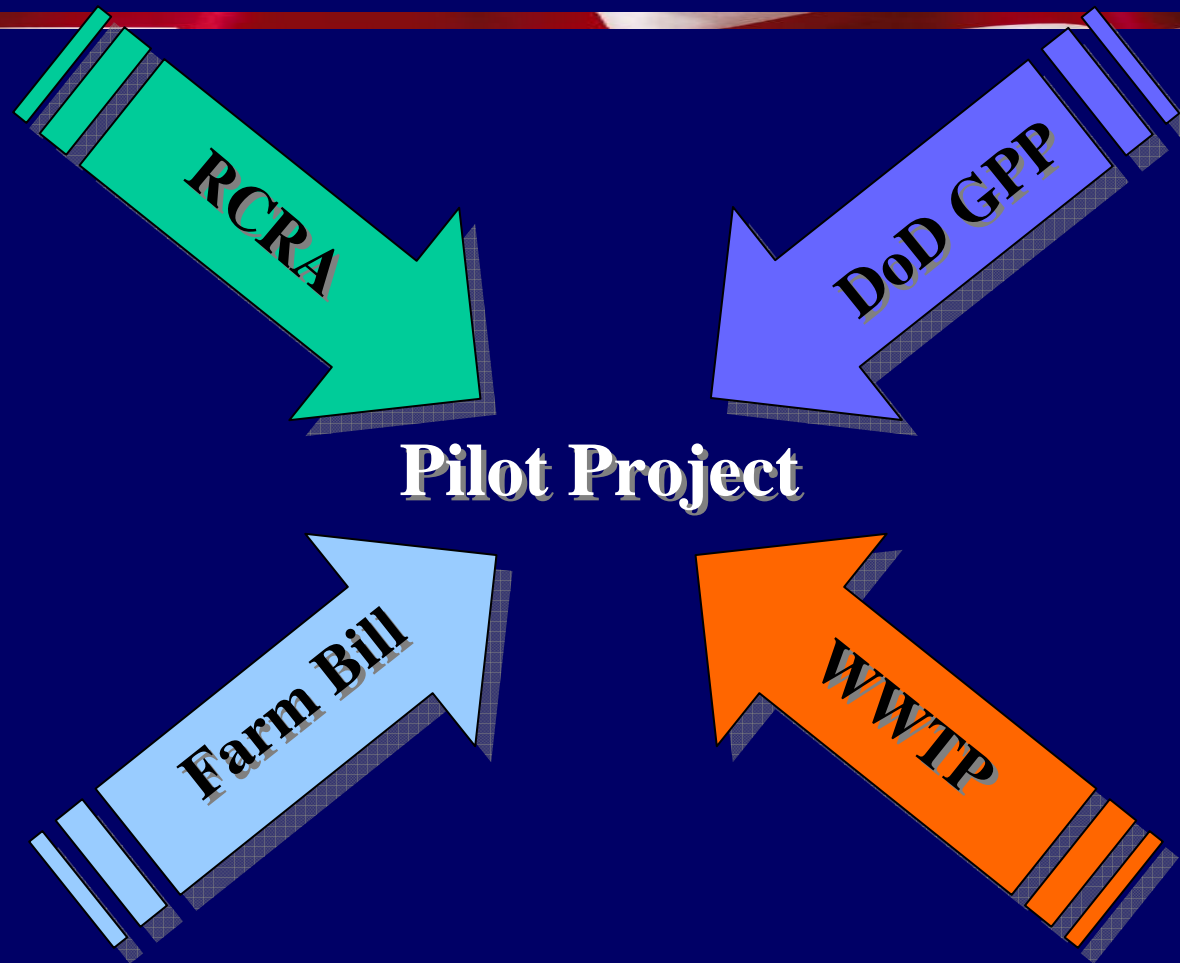
Seymour Johnson AFB

- Primary Missions
 - Two F-15E Fighter Squadrons with associated maintenance of equipment & aircraft
 - Two F-15E Training Squadrons with associated maintenance of equipment & aircraft
 - 916th Reserve ARW (KC-135s) with associated maintenance of equipment & aircraft
 - Typical Quality of Life services for military installations

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How Did We Get Here?



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Four Roads Converging (RCRA)

- Shaping the Acquisition Process
 - Executive Order 13101 “Greening the Government Through Waste Prevention, Recycling, & Federal Acquisition” (1998)
 - Title 40, CFR Part 247 “Comprehensive Procurement Guideline for Products Containing Recovered Materials”
 - Department of Defense & Installation Affirmative Procurement Programs

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Four Roads Converging (RCRA)

- Shaping the Acquisition Process
 - Seymour Johnson AFB Environmentally Preferable Purchasing Policy
 - Established preference program for recycled content products
 - Contract & specification changes
 - Base-wide training of all procurement personnel
 - Education & awareness opportunities
 - Existing audit system

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Four Roads Converging (Farm Bill)

- Shaping the Acquisition Process
 - Executive Order 13134 “Developing & Promoting Bio-Based Products & Bio-Energy (1999)
 - 2002 Farm Security & Rural Investment Act “Farm Bill”
 - Required procurement preferences for bio-based products from all Federal Agencies (details at a later date)



Four Roads Converging (Farm Bill)

- Detailed USDA Responsibilities
 - At some point, designate items that are bio-based or can be procured with bio-based content
 - Recommend practices for procurement and vendor certification of bio-based products
 - Provide information on availability, relative price, performance, environmental and public health benefits from these products
 - In turn, federal agencies are to initial preference programs

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Four Roads Converging (DoD GPP)

- Shaping the Acquisition Process
 - Department of Defense Green Procurement Program
 - Energy & Water Efficient Products
 - Alternative Fuels & Fuel Efficiency
 - Environmentally Preferable Products
 - Non-Ozone Depleting Substances
 - Priority Chemicals
 - Bio-Based Products

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Four Roads Converging (DoD GPP)

- DoD goal is to achieve 100% compliance with all mandatory Federal GPP programs in all acquisition transactions.
 - No timetable (i.e. by 2012)
 - Each federal agency is to show continued progress toward this goal (ISO 14001, Environmental Management System concept)
 - With this type of goal, where do we start?



Four Roads Converging (WWTP)

- Seymour Johnson AFB sends wastewater to the City Of Goldsboro WWTP
 - Goldsboro WWTP discharges to the Neuse River
 - Goldsboro Sanitary Sewer Ordinance has pollutant thresholds which could trigger Industrial User Permit requirements.
 - One of our largest industrial wastewater discharge streams is from floor scrubbers



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Bio-Based Detergent



- Initiated a Pilot Project
 - Surveyed the base to locate all walk-behind floor scrubbers
 - Took wastewater samples from each to identify any wastewater meeting the hazardous waste criteria
 - Over 30 samples taken, testing for pH, ammonia, phosphorus, and RCRA metals
 - Identified the brand of scrubber detergent currently being used by the shop and cleaning frequency



Bio-Based Detergent

Sample ID	pH	Oil & Grease mg/l	Ammonia mg/l	Total Phosphorous mg/l	Total Nitrogen mg/l	Cadmium mg/l	Lead mg/l
WW-3105	13.2	220	2.9	72	37	0.340	4.50
WW-4908	5.74			10.24		3.52	2.05
WW-3220	12.2	910	12	48	110	0.08	1.4

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Bio-Based Detergent



- Initiated a Pilot Project
 - Identified local supplier / manufacturer of detergents
 - Cox Industries, Inc. out of Wilson, North Carolina
 - Requested they provide a bio-based, neutral pH, phosphate-free detergent for scrubbers
 - Established a trial for four concrete floor locations
 - Aircraft & engine maintenance facilities
 - Golf course maintenance facility
 - Supply warehouse



Bio-Based Detergent

- SoyBase 2000
 - Cox Industries provided a soybean methyl ester based concentrated detergent
 - No phosphates
 - Near neutral pH
 - 55 gal drums or 270 gallon totes provided to each shop with dispensing mechanisms
 - Competitively priced
 - Results were generally favorable, but improved with set-up and operation training provided by the scrubber representative



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Bio-Based Detergent



- SoyBase 2000
 - Supply warehouse and golf course were pleased with cleaning, price, and customer service.
 - Aircraft hanger was pleased with cleaning capabilities. However, different technology used today.
 - Engine shop was pleased with price and customer service, however the pH has been modified slightly to provide a more aggressive cleaner.
 - FOD identification requirements
 - Still below hazardous waste thresholds

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Bio-Based Detergent

- SoyBase 2000
 - Results were advertised base-wide along with a re-education concerning the base Environmentally Preferable Purchasing Policy
 - Could not mandate purchase of SoyBase 2000 for competitive issues, however we stressed the preference requirements for like products
 - The base took an interest and so did other detergent vendors who attempted to introduce their own bio-based products
 - SJAFB Pollution Prevention Newsletter was also distributed throughout Air Combat Command

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Bio-Based Detergent

- SoyBase 2000
 - USDA certified or not?
 - Cox Industries had a lot of questions about marketing with the term “bio-based”
 - This early in the game, that was not our objective
 - Objective was to familiarize our base populace with the bio-based terminology and preference requirements as well as our vendors that we intended to comply with this requirement
 - As “certifiable” criteria is established, the vendors must take on that responsibility

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USAF Integration

- 2005 White House Closing the Circle Award (Honorable Mention)— Green Procurement
 - Bio-based Pilot Project
 - Affirmative Procurement Park (playground area created using 100% recycled content products)
 - Continuing conversion to bio-diesel
 - Commitment to increasing bio-based product use on base such as hydraulic oils, greases, cleaning products, etc.

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USAF Integration

- Trends
 - Increased procurement of bio-based products throughout federal agencies
 - Increased use of bio-diesel
 - Still must overcome resistance to change by showing real-world end user benefit
 - Relief from environmental or occupational health regulatory requirements
 - Pope AFB, Fayetteville, North Carolina
 - Similar activities based on occupational health drivers rather than environmental drivers

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USAF Integration

- In summary
 - The stage is set among AF installations and DoD to increase procurement of bio-based products
 - Installations must continually work toward the 100% compliant procurement goal; any improvement will naturally be driven by environmental and occupational health benefits
 - To really get shop level buy-in, these benefits must be in the form of man-hours & dollars
 - Micro-benefits vs. macro-benefits

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USAF Integration

- For General Air Force Green Procurement Information:

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Thank You

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