

**From:** [Stelly David](#)  
**To:** [Rooney Bill](#)  
**Cc:** [Stelly David David M.](#); [Adam Helms](#)  
**Subject:** DARPA Milestones Task 3.4c: Cytological Manipulate  
**Date:** Tuesday, October 06, 2009 9:41:12 AM  
**Attachments:** [milestones\\_Goal3Obj4-Stelly.doc](#)  
[ATT00053.htm](#)

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Re-visited the Milestones and tried to use the format you wanted Adam. Bill -- these differ some from what are in the proposal .... not sure that makes a difference,,, just states what we are doing a bit differently. I am not sure what to put as the dollar figure on this one, but y'all have the budget info I sent earlier.

David

Task 3.4c: Cytological Manipulate Pollinator Parent to Produce Uniform Commercial

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### **Task 3.4c: Cytological Manipulate Pollinator Parent to Produce Uniform Commercial Hybrids.**

#### Milestones and Metrics:

1. Create amphiploids of elite sorghum/energy cane hybrids
2. Assess pollen fertility of the derived amphiploids
3. Assess meiotic chromosome behavior and genetic constitution of representative amphiploids exhibiting significant pollen fertility, versus original clones
4. Assess pollinator efficacy of pollen-fertile amphiploids, with various sorghums, e.g., 2x and 4x
5. Assess progeny performance and uniformity of backcross progeny from amphiploids; consider possible interactions with differences among females (e.g., 2x vs. 4x sorghum)
6. Assess ability of pollen-fertile amphiploids to set self- or open-pollination seed
7. Assess of progeny performance and uniformity of self- and/or open-pollinated seed from pollen-fertile amphiploids

Deliverables: Seasonal progress reports (by year / growing season). Amphiploids. Amphiploids selected for reproductive contributions that prospectively increase feasibility of creating seed-based agricultural production system (as opposed to vegetative propagules). Data on genomic and ploidy factors affecting success, creating tools for selection that will increase efficacy of subsequent efforts. Amphiploids and subsequent products will be produced in overlapping yearly "waves"; data on field performance will come after summer and on fertility-related matters after the winter months. The number of doubled elite clones will progressively accumulate across years.

Cost: \$XXXXX