# EVALUATION OF REDUCED RISK INSECTICIDES FOR CODLING MOTH MANAGEMENT IN ENGLISH WALNUTS – 2005

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## ABSTRACT

The continued evaluation of reduced risk insecticides for the management of codling moth (CM) in English walnuts is imperative as organophosphate (OP) insecticide uses are restricted or cancelled. This trial was conducted in an orchard with a high codling moth population resulting in 22% damage at harvest. All treatments were significantly better than the untreated check for both dropped nuts infested with 1A flight CM and at harvest for nuts infested with 1B and second flight CM. At harvest, four applications of Warrior (at high and low rates), GF-1640 (high rate) or DPX-E2Y45 (high rate) provided excellent control of codling moth. These products provided numerically but not significantly better than the grower standard (Lorsban/Penncap-M). Four applications of GF-1640 (low rate), DPX-E2Y45 (low rate) or Assail, or eight applications of Cyd-X achieved good control. These products provided equivalent control to the grower standard (Lorsban/Penncap-M). Four applications of Entrust, four (high rate) or eight applications (low rate) of Carpovirusine, and eight applications of PureSpray Green horticultural oil provided only fair control (significantly less than the grower standard). Three new materials appear promising for CM control – Warrior, GF-1640 and DPX-E2Y45. Cyd-X appears promising for CM control in organic walnut orchards.

## OBJECTIVES

The Food Quality Protection Act was passed by Congress in 1996. This legislation has had a significant impact on the use of OP insecticides including loss of registrations and increased restrictions. The impacts of OP insecticides on wildlife and water quality are also being assessed. It is critical that alternative codling moth control measures be found and tested to help maintain an economically viable walnut industry in California. In addition, there is a growing organic walnut industry in California with specific needs for organically acceptable insecticides. Pheromone mating disruption is the main CM control technique utilized in organic orchards. This project is a continuing effort designed to evaluate alternative, reduced risk insecticides as potential replacements for OP insecticides in conventional walnut orchards, as supplements to pheromone mating disruption, and as stand-alone insecticides in organic walnut orchards for CM control.

## PROCEDURES

This study was conducted in a mature, commercial ‘Payne’ walnut orchard planted on a 24 x 24 foot spacing (75 trees/acre) northeast of Hollister, CA. Fourteen treatments were replicated four times in a randomized complete block design (Table 1). Each replicate was an individual tree with a buffer tree in each direction. Application timing was determined by using degree-days (DD) following the biofix utilizing the CM computer model available at the University of California Integrated Pest Management web site (http://www.ipm.ucdavis.edu). The biofix was

the date on which a sustained flight of codling moths (as determined by pheromone trap catches) coincided with a sunset temperature of 62º F or greater. DD were calculated using a single sine horizontal cutoff model with a lower threshold of 50ºF and upper threshold of 88ºF. Maximum and minimum air temperatures were obtained from the Ausaymas IMPACT weather station near Hollister, CA (Appendix). CM flight activity was monitored weekly utilizing CM pheromone (Suterra Biolure) and pheromone/kairomone combination (Trece Pherocon CM-DA Combo) lures in 1CP traps placed at six feet in the tree canopy beginning on March 15 and continuing until September 16, just prior to commercial harvest (Figure 1). Treatment timings were determined based upon the Suterra pheromone trap catches.

The target timings for application of all treatments were at 300 and 650 DD after the first flight biofix and 300 DD and 650 DD after the second flight biofix. Treatments 7 (Carpovirusine), 9 (Cyd-X) and 11 (PureSpray Green) received an additional spray applied one week after each scheduled spray. Treatments 3 (DPX-E2Y45 2.0 oz rate), 4 (DPX-E2Y45 4.0 oz rate), 5 (Warrior 1CS 2.5 oz rate), 6 (Warrior 1CS 5.0 oz rate), 7 (Carpovirusine 6.75 oz rate), 8 (Carpovirusine 13.5 oz rate) , and 9 (Cyd-X) had 0.25% PureSpray Green horticultural spray oil added to each application.

Actual spray timings varied due to weather conditions or irrigation scheduling and are listed in the appendix. Foliar sprays were applied by a hand-held orchard sprayer operating at 250 psi with a finished spray volume of 250 gallons per acre (3.33 gal/tree).

To evaluate control of the first (overwintering) CM flight, all dropped nuts were picked up from under test trees weekly from May 24 through July 12. These nuts were sorted and checked for CM damage. Twospotted spider mite and walnut aphid populations were evaluated by visual inspection. To evaluate control of late first flight (1B) as well as second flight CM, 100 nuts from each replicate (400 per treatment) were collected and cracked at the date of commercial harvest on September 20. Damaged nuts were sorted for CM and navel orangeworm (NOW) damage. Although this trial was directed at CM control, NOW often infests nuts previously damaged by CM.

## RESULTS

### Flight Activity

CM traps were placed in the orchard on March 15. The trap counts shown in Figure 1 were from a 1CP trap with a Suterra Biolure CM pheromone and a 1CP trap with a Trécé Pherocon CM-DA Combo Lure (pheromone/kairomone combination). Lure performance was similar for both lures except for better definition of the 1A and 1B flight peaks by the Trécé lure and a delay in the 1A peak with the Trécé versus the Suterra lure. The overwintering flight of CM began on March 24. The first or overwintering biofix was established as March 30. March 30 was the first date on which both sustained codling moth flight and sunset temperatures at or above 62°F occurred. The first peak of the overwintering flight (1A) occurred on April 26 at 250 degree days (DD). The second peak (1B) of the overwintering flight was on May 28 (688 DD). The overwintering flight ended on June 23 (1059 DD). The second biofix was determined to be June 24. The first peak

(2A) of the second CM flight occurred on July 14 (387 DD from the second biofix). The second peak (2B) of the second flight occurred on August 4 (841 DD from the second biofix).

**Overwintering or First Flight Damage**

All of the experimental treatments had a significantly lower number of CM infested dropped nuts than the untreated check (Table 1). There was no significant difference between the grower standard (treatment 13) and all of the other experimental treatments except for the PureSpray Green horticultural oil treatment (treatment 11), which had a significantly higher level of CM damage. Very low numbers of CM-infested nuts were noted for both rates of GF-1640 (treatments 1 and 2), the high rate of DPX-E2Y45 (treatment 4), both rates of Warrior (treatments 5 and 6) and Cyd-X (treatment 9). However, CM-infested dropped nut counts are extremely variable and difficult to interpret due to variations in tree size and crop load.

Twospotted mite populations were not observed and walnut aphid populations were extremely low this year in visual foliar inspections so actual counts were not conducted.

**CM and NOW Damage at Harvest**

Infestation by CM and NOW was over 22% in the untreated check at harvest (Table 1). Damage was primarily caused by CM (21.8%) with a very small amount (0.8%) of NOW damage. All treatments had a significantly lower percent of CM infestation when compared to the untreated check (table 1). The high rate of GF-1640, the high rate of DPX-E2Y45 and both rates of Warrior had numerically less, but not significantly less CM infestation compared the grower standard (Lorsban/Penncap-M). There was a strong rate effect for both GF-1640 and DPX-E2Y45. GF-1640 performed significantly better than its internal standard, Entrust, and compared favorably with Assail. DPX-E2Y45 also compared favorably with Assail. The combination of DPX-E2Y45 or Warrior or Cyd-X with PureSpray Green horticultural oil resulted in significantly lower CM infestation than with PureSpray Green oil alone. Warrior provided the best control of all experimental materials with no infestation even at the lowest application rate. It might be possible to achieve excellent control with Warrior at rates even lower than 2.5 oz/acre. Assail had significantly higher CM infestation compared to the high rate of DPX-E2Y45 and GF-140 and both rates of Warrior but did not differ from the grower standard. Both Carpovirusine treatments, Entrust and PureSpray Green horticultural oil had significantly more CM infestation when compared to the grower standard. There were no significant differences between Carpovirusine applied eight times at a low rate (6.75 oz/acre) compared to four applications at a high rate (6.75 oz/acre). Cyd-X applied eight times (6.0 oz/acre) had a significantly lower amount of CM infestation than Carpovirusine applied eight times (6.75 oz/acre). However, Cyd-X contains $3 \times 10^{13}$ virons or occlusion bodies per liter compared to $1 \times 10^{13}$ virons/liter for Carpovirusine. Thus, a direct comparison of the efficacy of the granulosis virons was not possible. Very little NOW infestation was observed this year with only the low rate of DPX-E2Y45, PureSpray Green horticultural oil and the untreated check having any infestation.

## DISCUSSION

This trial had a high native CM population with about 22% of the nuts infested at harvest in the untreated check. This trial should be considered a rigorous test of the experimental materials. All experimental materials provided significant control of CM when compared to the untreated check for both 1A CM damage (dropped nuts) and harvest CM damage. Warrior, GF-1640 and DPX-E2Y45 are three new promising CM control products. Warrior provided exceptional control of CM at harvest even at a low rate of application while only the high rate of GF-1640 and DPX-E2Y45 provided excellent control. Lorsban/Penncap-M (the grower standard), Cyd-X, Assail and the low rates of GF-1640 and DPX-E2Y45 provided good control. Carpovirusine (low and high rates), Entrust and PureSpray Green horticultural oil provided only fair control. These treatments had significantly higher CM infestation compared to Warrior, GF-1640, DPX-E2Y45 and Lorsban/Penncap-M, the grower standard.

Similar performance was noted for both Suterra Biolure CM pheromones lures and Trécé Pherocon CM-DA Combo lures in 1CP traps with the exception of better discrimination of the 1A and 1B flight peaks and a delay in the 1A flight peak with the Combo lure.

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Table 1: Mean number of codling moth infested dropped nuts and percent codling moth and navel orangeworm infested nuts at harvest at Hollister, CA – 2005

| Treatments | Rate form/ac | No. appl. | Mean[a] CM infested drop nuts | Mean[a] percent infested nuts at harvest CM | NOW | Total |
|---|---|---|---|---|---|---|
| 1. GF-1640 25WDG | 4.5 oz | 4 | 0.5 a | 1.0 abc | 0.0 a | 1.0 abcd |
| 2. GF-1640 25WDG | 6.0 oz | 4 | 1.0 a | 0.5 ab | 0.0 a | 0.5 ab |
| 3. DPX-E2Y45 35WG[b] | 2.0 oz | 4 | 5.3 a | 1.8 bcd | 0.3 ab | 2.0 bcde |
| 4. DPX-E2Y45 35WG[b] | 4.0 oz | 4 | 1.3 a | 0.5 ab | 0.0 a | 0.5 ab |
| 5. Warrior 1CS[b] | 2.5 oz | 4 | 2.0 a | 0.0 a | 0.0 a | 0.0 a |
| 6. Warrior 1CS[b] | 5.0 oz | 4 | 0.3 a | 0.0 a | 0.0 a | 0.0 a |
| 7. Carpovirusine[b] | 6.75 oz | 8 | 5.8 a | 3.5 de | 0.0 a | 3.5 def |
| 8. Carpovirusine[b] | 13.5 oz | 4 | 2.8 a | 3.8 de | 0.0 | 3.8 ef |
| 9. Cyd-X[b] | 6.0 oz | 8 | 1.3 a | 1.8 bcd | 0.0 a | 1.8 bcde |
| 10. Entrust 80WP | 2.0 oz | 4 | 5.0 a | 4.8 e | 0.0 a | 4.8 f |
| 11. PureSpray Green Horticultural Oil | 0.25 V/V | 8 | 17.3 b | 5.8 e | 0.3 ab | 6.0 f |
| 12. Assail 30SG | 8.0 oz | 4 | 5.8 a | 3.0 cde | 0.0 a | 3.0 cdef |
| 13. Lorsban 4E<br>Penncap-M | 4.0 pt<br>8.0 pt | 2<br>2 | 6.0 a | 0.8 abc | 0.0 a | 0.8 abc |
| 14. Untreated | --- | --- | 30.0 c | 21.8 f | 0.8 b | 22.5 g |

[a]Means followed by the same letter within a column are not significantly different (Fisher's protected LSD, $P<0.05$).

[b]Treatments contained 0.25% PureSpray Green horticultural oil by volume.

Appendix. Air temperature and degree-day accumulation for codling moth utilizing the Ausaymas IMPACT weather station at Hollister, CA - 2005

| Date | Air temperatures (°F) | | Degree-days | | Notes |
|---|---|---|---|---|---|
| | Min | Max | Daily | Accumulated | |
| Mar 30 2005 | 37 | 72 | 8.01 | 8.01 | |
| Mar 31 2005 | 38 | 78 | 10.88 | 18.89 | |
| Apr 01 2005 | 43 | 81 | 13.30 | 32.19 | |
| Apr 02 2005 | 42 | 71 | 8.34 | 40.53 | |
| Apr 03 2005 | 43 | 65 | 5.74 | 46.26 | |
| Apr 04 2005 | 40 | 66 | 5.75 | 52.01 | |
| Apr 05 2005 | 39 | 74 | 9.21 | 61.22 | |
| Apr 06 2005 | 41 | 75 | 10.02 | 71.24 | |
| Apr 07 2005 | 46 | 60 | 3.94 | 75.18 | |
| Apr 08 2005 | 38 | 61 | 3.41 | 78.59 | |
| Apr 09 2005 | 44 | 68 | 7.31 | 85.90 | |
| Apr 10 2005 | 41 | 73 | 9.09 | 94.99 | |
| Apr 11 2005 | 41 | 70 | 7.70 | 102.69 | |
| Apr 12 2005 | 41 | 69 | 7.24 | 109.93 | |
| Apr 13 2005 | 37 | 65 | 4.97 | 114.90 | |
| Apr 14 2005 | 35 | 71 | 7.31 | 122.21 | |
| Apr 15 2005 | 37 | 78 | 10.72 | 132.93 | |
| Apr 16 2005 | 42 | 80 | 12.59 | 145.52 | |
| Apr 17 2005 | 53 | 71 | 12.00 | 157.52 | |
| Apr 18 2005 | 40 | 71 | 8.00 | 165.52 | |
| Apr 19 2005 | 37 | 74 | 8.90 | 174.42 | |
| Apr 20 2005 | 37 | 73 | 8.45 | 182.87 | |
| Apr 21 2005 | 38 | 80 | 11.81 | 194.68 | |
| Apr 22 2005 | 43 | 81 | 13.30 | 207.98 | |

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|---|---|---|---|---|---|
| Apr 23 2005 | 49 | 69 | 9.10 | 217.08 | |
| Apr 24 2005 | 48 | 69 | 8.76 | 225.84 | |
| Apr 25 2005 | 43 | 77 | 11.38 | 237.22 | |
| Apr 26 2005 | 41 | 81 | 12.86 | 250.07 | |
| Apr 27 2005 | 44 | 69 | 7.78 | 257.85 | |
| Apr 28 2005 | 51 | 66 | 8.50 | 266.35 | |
| Apr 29 2005 | 46 | 76 | 11.63 | 277.98 | |
| Apr 30 2005 | 48 | 73 | 10.74 | 288.72 | |
| May 01 2005 | 47 | 75 | 11.42 | 300.15 | |
| May 02 2005 | 43 | 78 | 11.86 | 312.00 | 1A spray |
| May 03 2005 | 47 | 78 | 12.90 | 324.90 | |
| May 04 2005 | 48 | 74 | 11.24 | 336.14 | |
| May 05 2005 | 54 | 66 | 10.00 | 346.14 | |
| May 06 2005 | 53 | 67 | 10.00 | 356.14 | |
| May 07 2005 | 50 | 72 | 11.00 | 367.14 | |
| May 08 2005 | 50 | 66 | 8.00 | 375.14 | |
| May 09 2005 | 50 | 66 | 8.00 | 383.14 | |
| May 10 2005 | 44 | 70 | 8.25 | 391.39 | |
| May 11 2005 | 42 | 74 | 9.74 | 401.14 | |
| May 12 2005 | 43 | 82 | 13.78 | 414.92 | 1A + 7 day spray |
| May 13 2005 | 49 | 83 | 16.07 | 430.99 | |
| May 14 2005 | 47 | 85 | 16.36 | 447.35 | |
| May 15 2005 | 56 | 84 | 20.00 | 467.35 | |
| May 16 2005 | 56 | 82 | 19.00 | 486.35 | |
| May 17 2005 | 45 | 75 | 10.88 | 497.24 | |
| May 18 2005 | 61 | 79 | 20.00 | 517.24 | |
| May 19 2005 | 60 | 80 | 20.00 | 537.24 | |
| May 20 2005 | 55 | 78 | 16.50 | 553.74 | |

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|---|---|---|---|---|---|---|
| May 21 2005 | 47 | | 86 | 16.86 | 570.59 | |
| May 22 2005 | 49 | | 88 | 18.57 | 589.16 | |
| May 23 2005 | 43 | | 88 | 16.69 | 605.85 | |
| May 24 2005 | 46 | | 92 | 19.00 | 624.85 | |
| May 25 2005 | 48 | | 85 | 16.70 | 641.55 | |
| May 26 2005 | 50 | | 83 | 16.50 | 658.05 | |
| May 27 2005 | 55 | | 82 | 18.50 | 676.55 | |
| May 28 2005 | 47 | | 76 | 11.91 | 688.46 | |
| May 29 2005 | 48 | | 78 | 13.22 | 701.68 | |
| May 30 2005 | 45 | | 85 | 15.76 | 717.44 | |
| May 31 2005 | 52 | | 83 | 17.50 | 734.94 | 1B spray |
| Jun 01 2005 | 51 | | 84 | 17.50 | 752.44 | |
| Jun 02 2005 | 46 | | 78 | 12.61 | 765.05 | |
| Jun 03 2005 | 44 | | 77 | 11.61 | 776.66 | |
| Jun 04 2005 | 45 | | 75 | 10.88 | 787.54 | |
| Jun 05 2005 | 42 | | 73 | 9.27 | 796.81 | |
| Jun 06 2005 | 40 | | 75 | 9.84 | 806.65 | |
| Jun 07 2005 | 45 | | 75 | 10.88 | 817.54 | |
| Jun 08 2005 | 49 | | 75 | 12.08 | 829.62 | |
| Jun 09 2005 | 58 | | 75 | 16.50 | 846.12 | |
| Jun 10 2005 | 55 | | 77 | 16.00 | 862.12 | |
| Jun 11 2005 | 54 | | 78 | 16.00 | 878.12 | |
| Jun 12 2005 | 45 | | 91 | 18.38 | 896.50 | |
| Jun 13 2005 | 51 | | 96 | 22.04 | 918.54 | 1B + 7 day spray |
| Jun 14 2005 | 43 | | 87 | 16.20 | 934.75 | |
| Jun 15 2005 | 45 | | 81 | 13.80 | 948.55 | |
| Jun 16 2005 | 49 | | 70 | 9.59 | 958.14 | |
| Jun 17 2005 | 54 | | 72 | 13.00 | 971.14 | |

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|---|---|---|---|---|---|---|
| Jun 18 2005 | 49 | | 75 | 12.08 | 983.23 | |
| Jun 19 2005 | 50 | | 79 | 14.50 | 997.73 | |
| Jun 20 2005 | 49 | | 82 | 15.57 | 1013.30 | |
| Jun 21 2005 | 48 | | 82 | 15.21 | 1028.51 | |
| Jun 22 2005 | 50 | | 85 | 17.50 | 1046.01 | |
| Jun 23 2005 | 51 | | 74 | 12.50 | 1058.51 | |
| Jun 24 2005 | 55 | | 78 | 16.50 | 16.50 | 2nd biofix |
| Jun 25 2005 | 55 | | 78 | 16.50 | 33.00 | |
| Jun 26 2005 | 54 | | 77 | 15.50 | 48.50 | |
| Jun 27 2005 | 52 | | 80 | 16.00 | 64.50 | |
| Jun 28 2005 | 57 | | 79 | 18.00 | 82.50 | |
| Jun 29 2005 | 50 | | 89 | 19.43 | 101.93 | |
| Jun 30 2005 | 50 | | 87 | 18.50 | 120.43 | |
| Jul 01 2005 | 52 | | 86 | 19.00 | 139.43 | |
| Jul 02 2005 | 53 | | 75 | 14.00 | 153.43 | |
| Jul 03 2005 | 52 | | 78 | 15.00 | 168.43 | |
| Jul 04 2005 | 51 | | 79 | 15.00 | 183.43 | |
| Jul 05 2005 | 52 | | 75 | 13.50 | 196.93 | |
| Jul 06 2005 | 54 | | 85 | 19.50 | 216.43 | |
| Jul 07 2005 | 55 | | 82 | 18.50 | 234.93 | |
| Jul 08 2005 | 50 | | 82 | 16.00 | 250.93 | |
| Jul 09 2005 | 61 | | 83 | 22.00 | 272.93 | |
| Jul 10 2005 | 58 | | 86 | 22.00 | 294.93 | |
| Jul 11 2005 | 57 | | 94 | 24.46 | 319.39 | |
| Jul 12 2005 | 57 | | 92 | 23.92 | 343.31 | 2A spray |
| Jul 13 2005 | 57 | | 86 | 21.50 | 364.81 | |
| Jul 14 2005 | 54 | | 90 | 21.80 | 386.61 | |
| Jul 15 2005 | 54 | | 92 | 22.44 | 409.05 | |

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|---|---|---|---|---|---|---|
| Jul 16 2005 | 53 | | 90 | 21.30 | 430.35 | |
| Jul 17 2005 | 54 | | 94 | 23.00 | 453.35 | |
| Jul 18 2005 | 55 | | 88 | 21.50 | 474.85 | |
| Jul 19 2005 | 56 | | 89 | 22.43 | 497.28 | 2A + 7 days spray |
| Jul 20 2005 | 55 | | 87 | 21.00 | 518.28 | |
| Jul 21 2005 | 58 | | 75 | 16.50 | 534.78 | |
| Jul 22 2005 | 55 | | 92 | 22.94 | 557.71 | |
| Jul 23 2005 | 56 | | 104 | 25.93 | 583.64 | |
| Jul 24 2005 | 57 | | 89 | 22.92 | 606.57 | |
| Jul 25 2005 | 50 | | 87 | 18.50 | 625.07 | |
| Jul 26 2005 | 49 | | 89 | 19.00 | 644.07 | |
| Jul 27 2005 | 50 | | 88 | 19.00 | 663.07 | |
| Jul 28 2005 | 54 | | 88 | 21.00 | 684.07 | |
| Jul 29 2005 | 55 | | 87 | 21.00 | 705.07 | |
| Jul 30 2005 | 54 | | 90 | 21.80 | 726.87 | |
| Jul 31 2005 | 55 | | 95 | 23.73 | 750.60 | |
| Aug 01 2005 | 52 | | 98 | 22.97 | 773.58 | |
| Aug 02 2005 | 52 | | 95 | 22.28 | 795.86 | |
| Aug 03 2005 | 52 | | 96 | 22.52 | 818.38 | |
| Aug 04 2005 | 54 | | 93 | 22.73 | 841.11 | 2B spray |
| Aug 05 2005 | 52 | | 100 | 23.38 | 864.49 | |
| Aug 06 2005 | 55 | | 97 | 24.19 | 888.69 | |
| Aug 07 2005 | 54 | | 93 | 22.73 | 911.42 | |
| Aug 08 2005 | 54 | | 90 | 21.80 | 933.21 | |
| Aug 09 2005 | 54 | | 89 | 21.43 | 954.64 | |
| Aug 10 2005 | 53 | | 85 | 19.00 | 973.64 | |
| Aug 11 2005 | 48 | | 90 | 19.00 | 992.64 | |
| Aug 12 2005 | 49 | | 84 | 16.57 | 1009.21 | |

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|---|---|---|---|---|---|---|
| Aug 13 2005 | 55 | | 72 | | 13.50 | 1022.71 | |
| Aug 14 2005 | 56 | | 74 | | 15.00 | 1037.71 | |
| Aug 15 2005 | 56 | | 71 | | 13.50 | 1051.21 | |
| Aug 16 2005 | 54 | | 80 | | 17.00 | 1068.21 | |
| Aug 17 2005 | 53 | | 83 | | 18.00 | 1086.21 | 2B + 7 days spray |
| Aug 18 2005 | 55 | | 76 | | 15.50 | 1101.71 | |
| Aug 19 2005 | 57 | | 80 | | 18.50 | 1120.21 | |
| Aug 20 2005 | 54 | | 85 | | 19.50 | 1139.71 | |
| Aug 21 2005 | 51 | | 88 | | 19.50 | 1159.21 | |
| Aug 22 2005 | 50 | | 90 | | 19.81 | 1179.02 | |
| Aug 23 2005 | 51 | | 88 | | 19.50 | 1198.52 | |
| Aug 24 2005 | 51 | | 80 | | 15.50 | 1214.02 | |
| Aug 25 2005 | 55 | | 88 | | 21.50 | 1235.52 | |
| Aug 26 2005 | 49 | | 95 | | 20.89 | 1256.41 | |
| Aug 27 2005 | 54 | | 96 | | 23.49 | 1279.90 | |
| Aug 28 2005 | 55 | | 96 | | 23.97 | 1303.87 | |
| Aug 29 2005 | 49 | | 88 | | 18.57 | 1322.43 | |
| Aug 30 2005 | 50 | | 92 | | 20.47 | 1342.91 | |
| Aug 31 2005 | 53 | | 89 | | 20.93 | 1363.83 | |
| Sep 01 2005 | 52 | | 82 | | 17.00 | 1380.83 | |
| Sep 02 2005 | 55 | | 83 | | 19.00 | 1399.83 | |
| Sep 03 2005 | 50 | | 82 | | 16.00 | 1415.83 | |
| Sep 04 2005 | 54 | | 81 | | 17.50 | 1433.33 | |
| Sep 05 2005 | 45 | | 88 | | 17.23 | 1450.57 | |
| Sep 06 2005 | 48 | | 83 | | 15.70 | 1466.27 | |
| Sep 07 2005 | 48 | | 77 | | 12.72 | 1479.00 | |
| Sep 08 2005 | 55 | | 73 | | 14.00 | 1493.00 | |
| Sep 09 2005 | 59 | | 72 | | 15.50 | 1508.50 | |

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|---|---|---|---|---|---|---|
| Sep 10 2005 | 55 | | 77 | | 16.00 | 1524.50 | |
| Sep 11 2005 | 48 | | 75 | | 11.73 | 1536.23 | |
| Sep 12 2005 | 44 | | 76 | | 11.12 | 1547.35 | |
| Sep 13 2005 | 47 | | 72 | | 9.95 | 1557.30 | |
| Sep 14 2005 | 54 | | 77 | | 15.50 | 1572.80 | |
| Sep 15 2005 | 49 | | 78 | | 13.58 | 1586.38 | |
| Sep 16 2005 | 54 | | 72 | | 13.00 | 1599.38 | |
| Sep 17 2005 | 54 | | 77 | | 15.50 | 1614.88 | |
| Sep 18 2005 | 46 | | 83 | | 15.06 | 1629.94 | |
| Sep 19 2005 | 49 | | 94 | | 20.62 | 1650.56 | |
| Sep 20 2005 | 53 | | 75 | | 14.00 | 1664.56 | |