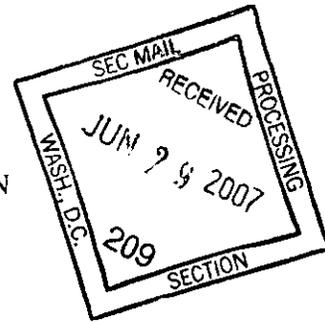




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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 11-K



(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2006

OR

TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 333-115185

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN
9330 Zionsville Road
Indianapolis, Indiana 46268-1054

B. Name of issuer of the securities held pursuant to the plan and the address of its principal executive office:

THE DOW CHEMICAL COMPANY
2030 DOW CENTER
Midland, Michigan 48674

REQUIRED INFORMATION

PROCESSED
JUL 05 2007
THOMSON FINANCIAL

Financial statements for the years ended December 31, 2006 and 2005, supplemental schedule for the year ended December 31, 2006, and Report of Independent Registered Public Accounting Firm.

Exhibits

23 Consent of Independent Registered Public Accounting Firm

SIGNATURE

The Plan: Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN

DATE: June 26, 2007

BY: 

Gordon Slack
Vice President - Finance and
Member, Dow AgroSciences Employee Benefits
Committee

Mycogen Corporation
Deferred Savings Plan

*Financial Statements as of and for the
Years Ended December 31, 2006 and 2005,
Supplemental Schedule as of December 31, 2006,
and Report of Independent Registered Public
Accounting Firm*

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Committee for the Administration of the
Mycogen Corporation Deferred Savings Plan

We have audited the accompanying statements of net assets available for benefits of Mycogen Corporation Deferred Savings Plan (the "Plan") as of December 31, 2006 and 2005, and the related statement of changes in net assets available for benefits for the year ended December 31, 2006. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2006 and 2005, and the changes in net assets available for benefits for the year ended December 31, 2006 in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The accompanying supplemental schedule listed in the Table of Contents is presented for the purpose of additional analysis and is not a required part of the basic financial statements, but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. The supplemental schedule is the responsibility of the Plan's management. Such supplemental schedule has been subjected to the auditing procedures applied in our audit of the basic 2006 financial statements and, in our opinion, is fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole.

Deloitte & Touche LLP

June 26, 2007

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS AS OF DECEMBER 31, 2006 AND 2005

	2006	2005
ASSETS —		
Plan interest in Master Trust:		
Investments	\$24,662,671	\$22,085,576
Participant loans	<u>155,525</u>	<u>144,991</u>
Total investments	<u>24,818,196</u>	<u>22,230,567</u>
Total assets	24,818,196	22,230,567
LIABILITIES —		
Distribution payable for excess contributions	<u>36,800</u>	<u>-</u>
NET ASSETS AVAILABLE FOR BENEFITS AT FAIR VALUE	24,781,396	22,230,567
ADJUSTMENTS FROM FAIR VALUE TO CONTRACT VALUE FOR FULLY BENEFIT-RESPONSIVE INVESTMENT CONTRACTS	<u>5,294</u>	<u>(22,694)</u>
NET ASSETS AVAILABLE FOR BENEFITS	<u>\$24,786,690</u>	<u>\$22,207,873</u>

See notes to financial statements.

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN

STATEMENT OF CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS FOR THE YEAR ENDED DECEMBER 31, 2006

ADDITIONS:

Investment income — Plan interest in The Dow Chemical Company Master
Trust investment income \$ 2,322,008

Contributions:

Participants 1,381,944
Employer 461,939

Total contributions 1,843,883

Total additions 4,165,891

DEDUCTIONS:

Administrative expenses 509
Benefits paid to participants 1,586,565

Total deductions 1,587,074

NET INCREASE IN ASSETS AVAILABLE FOR BENEFITS 2,578,817

NET ASSETS AVAILABLE FOR BENEFITS:

Beginning of year 22,207,873

End of year \$24,786,690

See notes to financial statements.

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN

NOTES TO FINANCIAL STATEMENTS

AS OF DECEMBER 31, 2006 AND 2005, AND FOR THE YEAR ENDED DECEMBER 31, 2006

1. DESCRIPTION OF THE PLAN

Mycogen Corporation (the "Company" or "Mycogen") Deferred Savings Plan (the "Plan") participates in a Master Trust with The Dow Chemical Company Employees' Savings Plan.

The following description of the Plan provides only general information. Participants should refer to the Plan document or Summary Plan Description for a more complete description of the Plan's provisions.

General — The Plan, which became effective February 1, 1987, is a defined contribution profit sharing and retirement plan, subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"), and covers substantially all employees of Mycogen and its participating subsidiaries. Employees of Mycogen are generally eligible to participate in the Plan as soon as administratively feasible following the date the eligible employee (as defined) both completes an hour of service and attains age 21.

Mycogen has been appointed as administrator of the Plan and investment fiduciary.

Employee Contributions — Participants may elect to contribute 1% to 30% for non-highly compensated employees and 1% to 20% for highly compensated employees of their eligible compensation, as defined, to the Plan, subject to certain limitations imposed by the Internal Revenue Code (the "Code"). Additionally, participants who are at least 50 years old during the Plan year can make catch-up contributions to the Plan, subject to certain limitations imposed by the Code. Contributions are made in investment options as directed by the participant.

Company Contributions — Mycogen may, at its sole discretion and without any obligation to do so, make a matching contribution each pay period on behalf of each qualified participant, as defined in the Plan. When the Company contributes to the Plan, the contribution to each participating employee's account is an amount equal to 100% of the first 2% and 25% of the next 4% of employee contributions, with a limit of \$3,000 per year. Contributions are made in investment options as directed by the participant.

Temporary Investments — Temporary investments of the Master Trust are investments in short-term money market funds in the respective investment funds.

Account Valuation — Participant account balances reflect the total contributions made to the Plan by the employee and the Company, plus investment results (which are allocated on a pro-rata basis), less expenses and withdrawals.

Vesting — Participants' contributions and allocated amounts of investment income or loss are fully vested at all times. Employer contributions may become fully vested upon participant retirement from the Company, death while an employee, becoming disabled while an employee, or upon partial or full termination of the Plan. Otherwise, the participant's vested interest in matching and discretionary contribution accounts, if any, is based upon months of service varying by participation date with employees being fully vested in matching and discretionary accounts after 60 months of service.

Forfeitures — Forfeitures of a participant's nonvested portion of his or her matching account occurs when a participant terminates and receives a distribution under the Plan or incurs 60 consecutive one month periods of severance. Forfeited amounts are held in a separate account. There were forfeitures of \$4,590 and \$23 available as of December 31, 2006 and 2005, respectively. These amounts will be allocated to Plan participants or used to reduce future employer contributions in accordance with the provisions of the Plan.

Benefits Distribution — On termination of services due to death, disability, or retirement, a participant becomes fully vested and will receive a lump sum amount equal to the value of the participant's interest in his or her account. For termination of services for other reasons, a participant may receive the value of the vested interest in his or her account as a lump sum distribution or in annual installments generally not to exceed five years. Withdrawals of a participant's account during the participant's employment are limited to financial requirements meeting the hardship provisions of the Plan, attainment of age 59-1/2 or through borrowings under the loan provisions of the Plan.

Participant Loans — Participants may borrow from their accounts a minimum of \$500, up to a maximum of the lesser of \$50,000 or 50% of the account balance credited from employee contributions and rollovers (subject to the provisions of the Plan). Loans are to be repaid over a term not to exceed 5 years or 30 years for the purchase of a primary residence. Effective June 16, 2003, any new loan shall have a fixed term not to exceed five years.

The loans are secured by the balance in the participant's account and bear interest at a rate commensurate with prevailing interest rates, as determined quarterly by the Plan administrator. Interest rates ranged from 7.25% to 8.25% at December 31, 2006. Principal and interest are paid ratably through semimonthly or weekly payroll deductions.

Investments — Participants direct the investment of their contributions into various investment options offered by the Plan.

Administration — Expenses to administer the Plan are paid by Mycogen and certain bank fees are allocated to the individual participant accounts. The assets of the Master Trust for the Plan and The Dow Chemical Company Employees' Savings Plan are held by Fidelity Management Trust Company ("Fidelity") who acts as independent trustee, custodian, and recordkeeper for all the investments in the Master Trust. Fidelity manages certain Plan investments in the Master Trust, such as shares of commingled funds.

Amendment or Termination — The Plan does not have an expiration date. The Company, however, may at any time terminate, amend, or modify the Plan, in accordance with the Plan, subject to certain rights of the Plan participants. Upon termination of the Plan, each participant is entitled to receive the entire balance in his or her account in accordance with the terms of the Plan.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND RECENT ACCOUNTING PRONOUNCEMENTS

SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Accounting — The financial statements for the Plan have been prepared in accordance with accounting principles generally accepted in the United States of America. Investment transactions are accounted for on the trade date, and dividend and interest income are recorded when earned.

Use of Estimates — The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of net assets available for benefits, disclosures of contingent assets and liabilities at the date of the financial statements, and the reported amounts of changes in net assets available for benefits during the reporting period. Actual results could differ from those estimates.

Risks and Uncertainties — The Plan and Master Trust invest in common stock and various investment instruments including pooled funds. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

Investment Valuation and Income Recognition — Investments in the Plan and Master Trust consisting of common stock of The Dow Chemical Company and pooled funds are stated at fair value. The fully benefit-responsive investment contracts are stated at fair value and then adjusted to contract value. Common stock of The Dow Chemical Company is stated at fair value based upon the quoted market value of such securities at year end. Temporary investments and participant loans receivable are stated at cost, which approximates fair value.

Investments of the Interest Income Fund included in the Master Trust consist of Synthetic Guaranteed Investment Contracts (“synthetic GICs”) (see Note 3). Synthetic GICs operate similarly to a separate account investment contract, except that the assets are placed in a trust (with ownership by the Master Trust) rather than a separate account of the contract issuer. The synthetic GICs provide for prospective crediting interest rate adjustments based on the interest earnings and fair value of the underlying trust assets. The crediting interest rates are reset monthly or quarterly, depending on the contract, and the contracts include wrappers that provide that the crediting interest rates cannot be less than zero.

Changes in market interest rates affect the yield to maturity and the market value of the underlying investments. Such changes could have a material impact on the wrapper contract’s interest crediting rate. In addition, participant withdrawals and transfers from the Plan are paid at contract value but funded through the market value liquidation of the underlying investments, which also impacts the interest crediting rate. The resulting gains and losses in the market value of the underlying investments are represented in the Plan’s Statements of Net Assets Available for Benefits as the “Adjustments from fair value to contract value for fully benefit-responsive investment contracts.”

Benefits Payable — Amounts payable to persons who have withdrawn from participation are not recorded as a liability of the Plan. There were no benefits payable to participants who have withdrawn from participation in the Plan as of December 31, 2006 and 2005.

Federal Income Tax Status — The Internal Revenue Service (“IRS”) has determined and informed the Company by a letter dated February 22, 2002, that the Plan is qualified and the trust established under the Plan is tax-exempt under the appropriate sections of the Internal Revenue Code. Although the Plan has been amended since receiving the determination letter, the Plan administrator believes that the Plan is designed and is currently being operated in compliance with the applicable provisions of the Code and as a result, no provision for taxes has been recorded in the Plan’s financial statements.

RECENT ACCOUNTING PRONOUNCEMENTS

Accounting for Fully Benefit-Responsive Contracts Held by Certain Investment Companies — The financial statements reflect the retroactive adoption of Financial Accounting Standards Board Staff Position, FSP AAG INV-1 and SOP 94-4-1, *Reporting of Fully Benefit-Responsive Contracts Held by Certain Investment Companies Subject to the AICPA Investment Company Guide and Defined-Contribution Health and Welfare and Pension Plans* (the “FSP”). As required by the FSP, the Statements of Net Assets Available for Benefits presents investment contracts at fair value as well as an additional line item showing an adjustment of fully benefit-responsive contracts from fair value to contract value at December 31, 2006 and 2005. The Statement of Changes in Net Assets Available for Benefits is presented on a contract value basis and was not affected by the adoption of the FSP. The adoption of the FSP did not impact the amount of net assets available for benefits at December 31, 2006 or 2005.

All of the Plan’s synthetic GICs are considered to be fully benefit-responsive and are therefore recorded at contract value in accordance with the FSP. The average yield for the Plan’s synthetic GICs was approximately 5.1% for the year ended December 31, 2006. The crediting interest rate was approximately 5.4% at December 31, 2006. There are no reserves against the contract value for credit risk of the contract issuer or otherwise.

3. MASTER TRUST

Effective August 29, 2003, the Company created the Master Trust for the purpose of commingling certain investments of the Plan and The Dow Chemical Company Employees’ Savings Plan. The net assets of the Master Trust are held by Fidelity, who acts as the independent trustee, custodian, and recordkeeper.

The net assets of the Master Trust as of December 31, 2006 and 2005, are as follows:

Master Trust — Net Assets	2006	2005
Investments at fair value as determined by quoted market prices:		
The Dow Chemical Company common stock:		
Dow Stock fund	\$ 700,084,735	\$ 830,007,065
Leveraged Employee Stock Ownership Plan (“LESOP”) fund (allocated shares)	475,331,891	613,439,992
Pooled funds	3,004,465,332	2,577,044,399
Temporary investments	36,230,551	44,372,612
Participant loans	106,606,698	106,301,541
Synthetic GICs	<u>1,494,335,906</u>	<u>1,546,458,496</u>
Investments at fair value	5,817,055,113	5,717,624,105
Adjustments from fair value to contract value	<u>2,868,685</u>	<u>(12,416,969)</u>
Total	<u>5,819,923,798</u>	<u>5,705,207,136</u>
Other assets and liabilities of the Master Trust:		
Accrued interest and dividends receivable	6,298,501	12,331,855
Accrued liabilities	<u>(16,371,434)</u>	<u>(17,569,573)</u>
Total	<u>(10,072,933)</u>	<u>(5,237,718)</u>
Total net assets in the Master Trust	<u>\$5,809,850,865</u>	<u>\$5,699,969,418</u>

Participants of the Plan do not participate in the LESOP.

Master Trust — Net Investment Income

Net appreciation (depreciation) as determined by quoted market prices:	
Common stock of The Dow Chemical Company:	
Dow Stock fund	\$ (69,243,270)
LESOP fund	(55,021,363)
Pooled funds	<u>360,840,444</u>
Net appreciation	236,575,811
Dividends	48,410,412
Interest	<u>85,894,561</u>
Total Master Trust net investment income	<u>\$ 370,880,784</u>

As of December 31, 2006 and 2005, the plans participating in the Master Trust held the following interests in the Master Trust net assets:

		2006	2005
The Dow Chemical Company Employees' Savings Plan	99.6 %	\$5,785,027,375	\$5,677,761,545
Mycogen Corporation Deferred Savings Plan	<u>0.4</u>	<u>24,823,490</u>	<u>22,207,873</u>
Total Master Trust net assets available for benefits	<u>100 %</u>	<u>\$5,809,850,865</u>	<u>\$5,699,969,418</u>

The net investment income relating to the Master Trust was allocated daily to the participating plans by the trustee based on the Plan's interest in the individual funds of the trust.

4. RECONCILIATION OF FINANCIAL STATEMENTS TO FORM 5500

The following is a reconciliation of net assets available for benefits per the financial statements to the Form 5500 as of December 31, 2006:

Net assets available for benefits per the financial statements	\$24,786,690
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	<u>(5,294)</u>
Net assets available for benefits per the Form 5500	<u>\$24,781,396</u>

For the year ended December 31, 2006, the following is a reconciliation of net investment income per the financial statements to the Form 5500:

Net investment income per the financial statements	\$ 2,322,008
Adjustment from contract value to fair value for fully benefit-responsive investment contracts	<u>(5,294)</u>
Net investment income per the Form 5500	<u>\$ 2,316,714</u>

5. RELATED PARTY TRANSACTIONS

All transactions with Fidelity qualify as party-in-interest transactions.

6. VOLUNTARY COMPLIANCE RESOLUTION

Effective January 1, 2005, the Company amended the Plan to exclude from coverage an employee working as a "seasonal employee" expected to perform unskilled labor for a period not to exceed six months. Although the employees intended to be excluded from coverage form a distinct job class of employees, the description of their job class contained in the amendment references "seasonal" and "six months", which may cause the Plan to violate Code Section 410(a). The Plan is in the process of filing an application under the IRS Voluntary Compliance Resolution Program with respect to this Plan

amendment. Upon approval from the IRS, the Company will amend the definition provided in the Plan to ensure compliance with Code Section 410(a). The Company expects to receive a favorable compliance statement from the IRS.

* * * * *

SUPPLEMENTAL SCHEDULE

MYCOGEN CORPORATION DEFERRED SAVINGS PLAN

PLAN SPONSOR: MYCOGEN CORPORATION
EMPLOYER IDENTIFICATION NO. 95-3802654
PLAN NO. 001

SCHEDULE H, LINE 4i — SCHEDULE OF ASSETS (HELD AT END OF YEAR) AS OF DECEMBER 31, 2006

(a)	(b) Identity of Issue, Borrower, Lessor, or Similar Party	(c) Description of Investment Including Maturity Date, Rate of Interest, Collateral, Par, or Maturity Value	(d) Cost or Contract Value	(e) Current Value
*	The Dow Chemical Company Master Trust:			
	Investments			\$ 24,662,671
*	Participant Loans	Interest rates ranging from 7.25% to 8.25%. Loan maturities up to 30 years.		\$ 155,525

* Represents a party-in-interest to the Plan.

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-115185 of The Dow Chemical Company on Form S-8 of our report dated June 26, 2007, appearing in this Annual Report on Form 11-K of Mycogen Corporation Deferred Savings Plan for the year ended December 31, 2006.

Deloitte & Touche LLP

Midland, Michigan
June 26, 2007

END