Introduction

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A glance through the past 200 years reveals that the American legal system has treated agriculture as a unique sector of our society.\(^1\) Government involvement during the establishment period in American agricultural history has no parallel in the history of other sectors of the nation’s economy.\(^2\) Comprehensive measures have included: capitalization of farmers\(^3\) with free or low cost land; subsidization of agricultural transportation, irrigation, education, and research systems; facilitation of commodity marketing; regulation of trade practices to protect farmers; and establishment of specialized agricultural banks.

More specifically, during this establishment period, millions of acres from the vast public lands of the United States were used to develop the nation’s agricultural base. Congress initially authorized low cost sales to farmers and then gave U.S. patents to farmers who complied with the 1862 Homestead Act\(^4\) or subsequent homestead acts.\(^5\) Canal and

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2 For purposes of this Introduction, the establishment period concludes with the coming of the Great Depression of the 1930s.

3 This Introduction uses the term “farmer” to encompass field crop producers, ranchers, growers, and others engaged in production agriculture.

4 Ch. 75, 12 Stat. 392 (repealed 1976).
railroad land grants helped to open western lands to agriculture and to create the essential transportation infrastructure.\textsuperscript{6} Federal legislation promoted education and research in the agricultural sciences. This legislation included the Morrill Act of 1862,\textsuperscript{7} the Hatch Act of 1887,\textsuperscript{8} the second Morrill Act of 1890,\textsuperscript{9} and the Smith-Lever Act of 1914.\textsuperscript{10} Government regulation also emerged as a noticeable factor in the latter part of the 19th century, largely to protect farmers from unfair and fraudulent trade practices.\textsuperscript{11} In addition, after 1902, significant tracts of arid land in the West were opened to irrigated agriculture with supplies of subsidized water from federal reclamation projects.\textsuperscript{12} Sympathetic to the needs of farmers to gain more power in the marketplace, Congress fostered the agricultural cooperative movement in the early decades of this century.\textsuperscript{13} Finally, by 1933, the full structure of the Farm Credit System was in place with specialized banks designed solely to serve agriculture.\textsuperscript{14}

\textsuperscript{5} For a discussion of this history, see G. Coggins & C. Wilkinson, Federal Public Land and Resources Law 86-100 (2d ed. 1987).

\textsuperscript{6} Id. at 70-71, 106-08.

\textsuperscript{7} Ch. 130, 12 Stat. 503 (codified as amended at 7 U.S.C. §§ 301-308 (1988)). The Morrill Acts authorized land grants to states to establish agricultural colleges. See also infra note 9.

\textsuperscript{8} Ch. 314, 24 Stat. 440 (codified as amended at 7 U.S.C. §§ 361a-361i (1988)) (authorizing appropriations to state agricultural experiment stations to foster research).


\textsuperscript{11} For instance, agricultural states passed numerous Granger Laws. In the 1870s, Illinois took the lead by enacting laws that regulated rail rates and public commodity warehouses. See S. Buck, The Granger Movement: A Study of Agricultural Organization and Its Political, Economic, and Social Manifestations 1870-80 (1913).

\textsuperscript{12} See G. Coggins & C. Wilkinson, supra note 5, at 128-33.


With the watershed of the Great Depression of the 1930s, legislative emphasis at the federal level shifted from measures to establish infrastructure and to regulate practices, to programs of economic regulation of agriculture on a scale previously unimaginined.\textsuperscript{15} Once the nation moved into the post-World War II era, the growth of administrative agencies accelerated and their involvement in agriculture increased by geometric proportions.\textsuperscript{16} Attention soon turned to federal measures to promote the U.S. agricultural export trade. The stage then was set for the decades of the 1970s and 1980s — a veritable roller coaster ride for American agriculture in world markets.\textsuperscript{17}

Gradually at first, and then at an accelerated pace with the coming of the New Deal, statutory and regulatory material focusing on agricultural matters expanded. Today, the United States Code contains many special provisions aimed solely at agriculture.\textsuperscript{18} The same is true of the codified statutes of the fifty states.\textsuperscript{19} Federal and state legislation affecting agriculture usually provide distinct regulatory schemes, authority for special institutions, and exceptions to general statutory rules.\textsuperscript{20}

Rulemaking power granted to administrative agencies at the federal and state levels has resulted in a vast array of substantive and procedural regulations specifically designed to impact agricultural production, marketing, credit, and labor.\textsuperscript{21} Moreover, even the common law occasionally has generated special rules for agricultural cases.\textsuperscript{22}

Of course, general principles within the mainstream of American jurisprudence can address and resolve many legal problems faced by agricultural interests. As this Introduction illustrates, however, persons representing agricultural interests typically must have significant additional competence.\textsuperscript{23} In this Symposium, participating authors explore the efforts of legislative bodies, administrative agencies, and courts to resolve problems faced by American agriculture in the areas of economic policy, international trade, labor-management relations, marketing, finance and credit, cooperative business organization, and protection of soil and water resources.

Why has agriculture received special treatment at the hands of the American legal system? The simple answer is that agriculture has been and remains the nation's most significant industry with special needs and with its own set of interest groups.\textsuperscript{24} A more careful analysis

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\textsuperscript{21} See Titles 7 and 9 of the 1989 Code of Federal Regulations (USDA regulations). Many additional titles contain parts focused specifically on agricultural matters. See, e.g., Title 12, parts 600-624 (Farm Credit System); Title 29, part 500 (protection of migrant and seasonal farm workers); Title 29, part 1928 (OSHA standards applicable to agricultural operations). Promulgated regulations abound at the state level. See, e.g., Tex. Admin. Code tit. 4 (1989) (agriculture).

\textsuperscript{22} Consider the apparent willingness of some courts to grant the remedy of specific performance for a breach of a commodity marketing contract not involving unique chattels. See, e.g., Riegel Fiber Corp. v. Anderson Gin Co., 512 F.2d 784 (5th Cir. 1975). Some courts grant special treatment to agricultural cooperatives. See, e.g., Feagain v. Dark Tobacco Growers' Coop. Ass'n, 202 Ky. 801, 261 S.W. 607 (1924).

\textsuperscript{23} Consider the issues involved in advising a farm landlord about the legal impact of economic terms in a farm lease. The terms selected may impact the ability of the landlord's estate to elect special use valuation under I.R.C. § 2032A and deferred installment payment of federal estate taxes under I.R.C. § 6166. The terms selected may affect rights to participate in federal farm programs and to insure crops under Federal Crop Insurance Corporation regulations. Beyond economic terms, complex questions arise as to lease termination when double-cropping is involved, and as to the need for tailored clauses to reflect the landlord's conservation goals and to ensure the tenant's compliance with preexisting contracts under federal conservation programs.

\textsuperscript{24} Agriculture, the nation's largest industry, accounted for 17.5% of the total gross national product in 1985. Agriculture is also the nation's largest employer, using 21 million people in all phases. Farming itself employs only 2.7 million workers. U.S. Dep't of Agriculture, Misc. Pub. No. 1063, Fact Book of U.S. Agriculture 1
reveals certain themes that tie together seemingly disparate statutory and regulatory schemes. Four characteristics of American agriculture have had deep historical significance in influencing the development of law and institutions peculiar to agriculture.

First, there is the land. No other industry in the United States makes as extensive use of the land resource as does agriculture.\(^{25}\) With the closing of public lands to settlement\(^{26}\) and with the emergence of a market economy in all regions for agricultural land, Congress created special institutions to satisfy unmet demands of farmers for long-term financing at reasonable interest rates.\(^{27}\) Periodically, temporary federal and state legislative programs have emerged to assist farmers with delinquent mortgages in surviving bust cycles in the farm economy.\(^{28}\) As competition for available land has increased, a notable surge has arisen

\(^{(1987)}\).

\(^{25}\) Of the 2,263,000,000 acre land base in the United States, 1,512,000,000 acres are in private, as opposed to federal, ownership. Of the private sector acres, 1,361,000,000 are classed as agriculture — 413,000,000 acres of cropland; 414,000,000 acres of range land; 376,000,000 acres of forestland; 113,000,000 acres of pastureland; and 23,000,000 acres in other farm uses. **COUNCIL ON ENVIRONMENTAL QUALITY, NATIONAL AGRICULTURAL LANDS STUDY, FINAL REPORT 1981**, at 28.

\(^{26}\) The great period of homesteading on public lands, which commenced with the Homestead Act of 1862, began to wane by the early years of the 20th century as suitable agricultural land became scarce. The official end to homesteading occurred with the passage of The Taylor Grazing Act of 1934, 43 U.S.C. §§ 315-315r (1982 & Supp. V 1987), and the resulting withdrawal of public lands from settlement by Executive Order. See Exec. Order Nos. 6910, 6964, 43 C.F.R. 869 (1938). The restoration of homesteading by Executive Order in 1946 had minor impact.

\(^{27}\) The Federal Farm Loan Act of 1916 authorized the chartering of the 12 district Federal Land Banks, the first institutions in what was to become the Farm Credit System. With 75% of total farm asset values in real estate, the need for borrowed capital becomes obvious. **U.S. DEP’T OF AGRICULTURE, AGRIC-INFO rmATION BULLETIN NO. 525, FINANCIAL CHARACTERISTICS OF U.S. FARMS 3 (1987)**.

in state, local, and private legal measures to control the conversion of limited land resources to nonagricultural uses. Allocation of scarce water resources on or available to farms and ranches increasingly has become an issue, particularly in the Westside states. Given the extensive use of agricultural chemicals on vast tracts of land, resulting nonpoint source pollution of surface and ground waters has presented increasingly difficult policy and enforcement problems. Longstanding concerns about sound soil and water management practices have persisted, and experiments in legislative response have continued.

Second, biological cycles govern production agriculture. Thus, programs and laws suited to other industries often cannot adequately facilitate or regulate production agriculture. Seasonal patterns, rather than supply and demand dictates of the marketplace, govern many decisions and transactions. As a result, special institutions have been created to

29 For a discussion of various state measures, see Agricultural Law, supra note 1, at 839-904. For a summary of more recent developments, see Thompson, New Directions in Farmland Preservation, in American Agricultural Law Ass'n, Convention Handbook 6-1 (Tenth Annual Meeting and Educational Conference, Nov. 3-4, 1989) [hereafter Convention Handbook]. These measures address immediate concerns about local issues, such as preservation of the local rural society and the supporting infrastructure. A more remote and larger concern focuses on the role U.S. agriculture may need to play when world population approaches 11 billion by 2050. This assumes growth of 88 million per year from the 1988 figure of just over 5 billion. See How Will Ag Markets Respond to Population Doubling?, Farmline, July 1988, at 12.


33 Federal and state legislation recognizes this problem. Tailored legislation includes the special agricultural provisions scattered throughout the Uniform Commercial Code, the wide array of special provisions in state and federal labor laws to address the seasonal workforce, distinct regulation of marketing to deal with seasonal surges, and the favored treatment of agricultural cooperatives.
provide operating credit,\textsuperscript{34} to supply and protect seasonal labor,\textsuperscript{35} and to facilitate commodity marketing.\textsuperscript{36} This cyclical nature of production agriculture accounts for the special treatment of agriculture in laws governing commercial transactions,\textsuperscript{37} secured financing,\textsuperscript{38} warehousing,\textsuperscript{39}

\textsuperscript{34} The Farm Credit Act of 1933, ch. 98, 48 Stat. 257 (repealed by various statutes 1956-1971), authorized the chartering of Production Credit Associations to make short- and intermediate-term loans to farmers. FmHA emerged to provide farm ownership loans and operating loans to eligible farmers unable to get credit elsewhere. See infra note 48.


\textsuperscript{36} Examples include commodity futures markets to allow buyers and sellers of many agricultural commodities to discover prices, cooperatives to facilitate marketing, the Commodity Credit Corporation to intervene at times as a buyer, and the General Sales Manager (GSM) programs of the Foreign Agricultural Service to promote international sales.

\textsuperscript{37} For example, the question whether a farmer is a “merchant” under U.C.C. § 2-104 impacts rights under U.C.C. § 2-201(2) and § 2-314. The issue has received varied analysis in the courts. See Erikson, \textit{Selling Grain in a Rising Commodity Market: Is the Farmer a Merchant?}, 1 MIDWEST AGRIC. L.J. 25 (1983-1984). At least 26 states have amended U.C.C. § 2-313 to eliminate implied warranties of livestock health.

\textsuperscript{38} Article 9 of the Uniform Commercial Code treats farm products as a distinct class of goods. In the case of growing crops, the U.C.C. offers special rules as to attachment and perfection of security interests. As to the rights of a secured party in farm products in relation to the buyer of such collateral, Congress preempted state law and imposed a choice of two complex alternatives that govern whether security interests in farm products survive sale. See Food Security Act of 1985, Pub. L. No. 99-198, § 1324, 99 Stat. 1354, 1539 (codified at 7 U.S.C. § 1631 (1988)).

shipped, hired labor, and other areas.

Third, even in the contemporary era of fewer and larger farms and advancing vertical integration, agricultural production is still largely atomistic. Many producers, few of whom have any real control over prices paid for inputs or prices received for commodities, characterize production agriculture. Add to this the periodic boom and bust cycles, and we begin to see the impetus for federal farm programs, marketing orders, special trade practices regulation, unique credit institutions.

See, e.g., G. & T. Terminal Packaging Co. v. Consolidated Rail Corp., 830 F.2d 1230 (3d Cir. 1987). State common law remedies for claims against rail carriers engaging in discriminatory conduct were preempted when ICC exempted rail traffic in agricultural commodities from regulation. Id. at 1234-35. This action was authorized by the Staggers Rail Act of 1980, Pub. L. No. 96-448, 94 Stat. 1895 (codified in scattered sections of U.S.C.).

For a discussion of agricultural labor issues, see supra note 35.

Marketing problems become particularly acute for producers of perishable agricultural commodities that have little, if any, storage life.

The number of U.S. farms peaked at 6.8 million in 1935. By June 1, 1988, the number had fallen to 2,158,800 farms, with at least $1,000 in "normal" sales. Farms with annual sales of less than $10,000 totalled 50%, but controlled less than 12% of all land in farms. Farms with sales of $100,000 or more controlled 51% of all land in farms, but made up less than 15% of the number of farms. Farm Numbers Falling More Slowly, Farmline, Oct. 1988, at 16. Farm population peaked at 32.5 million in 1916, but now stands at less than six million. Farm Population Can Be Defined Different Ways, Farmline, Sept. 1989, at 16.

The "eternal complaint" of farmers has been that they are price takers, both as sellers and buyers. While a few producers have grown so large that they can negotiate face-to-face on purchases and sales, such operations remain a rarity. Cooperatives, while helpful, have never solved the problem to the extent originally envisioned.

Federal farm programs seek to provide a stabilizing effect through price and income supports for certain key commodities by using nonrecourse price support loans and deficiency payments. To the extent that low floors for price support loans keep the prices of feed grain low, livestock producers benefit. These producers do not receive direct price and income supports. The fruit and vegetable industries seek orderly marketing through marketing orders and are excluded from price and income support programs. The dairy sector largely is subject to milk marketing orders, although prices occasionally are supported by C.C.C. purchases of dairy products.

For a discussion of current marketing order issues in the fruit and vegetable sectors, see Garoyan, Marketing Orders, 23 U.C. Davis L. Rev. 697 (1990).


The more notable examples include the Farm Credit System and the Farmers

Fourth, in most parts of the United States the agrarian tradition, viewed as myth or reality, continues to influence policy debates and lawmaking. The “Jeffersonian ideal”\footnote{Jefferson argued that the family farm would produce the personality type essential for a democracy. Even Jefferson, however, had his detractors who argued for the plantation system and a nation of industrializers. Interestingly, Jefferson argued that for the family farm to prosper, it should produce a surplus for export to Europe. For a discussion of this history, see Kirkendall, supra note 1, at 4-7; see also Kennedy, The Effect of Federal Policy on Farm Size, 5 Law & Inequality 391 (1987).} of the yeoman farmer, the farmer who operates only with family labor, has received the dedicated support of many lawmakers. Yet from Jefferson’s time forward, a continuous debate has existed over the structural trends in American agriculture and the expression of public policy that might best foster a desired model.\footnote{The voices speaking out on agricultural issues often seem to be a veritable Tower of Babel, and last-minute compromise almost always produces the legislation. William Allen White drew the biblical analogy in his classic article, The Farmer’s Votes and Problems, 28 Yale Rev. 433, 448 (1939). Congress debated the Food Security Act of 1985 until the final days of the first session of the 99th Congress. Controversy over the agricultural worker provisions, eventually resolved by a final meeting of key congressional figures in a Capitol hallway outside the conference room, delayed passage of the Immigration Reform and Control Act of 1986.} Regional differences always have been evident. States in the central portion of the United States currently are the most aggressive in seeking to protect family-size farms through laws restraining corporate farming,\footnote{Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota, and Wisconsin have explicit laws restricting corporate ownership and operations in agricultural production. See W. Smart & A. Hoberg, Corporate Farming in the Anti-Corporate Farming States (Jan. 31, 1989) (available from University of Arkansas, School of Law).} programs to finance beginning farmers,\footnote{For example, Minnesota assists persons entering or reentering farming through its Rural Finance Authority Loan Programs. See Minn. Stat. Ann. §§ 41B.02 subds.} and other
measures to foster the favored nonindustrialized "economic vision."\textsuperscript{54} At the federal level, debates continue between those who wish to preserve the agrarian model and those who see a stronger, more viable agriculture emerging in the trend toward fewer and larger industrialized farms. This debate is reflected in disagreements over payment limitations in farm programs,\textsuperscript{55} allocation of funding for research,\textsuperscript{56} and the future of the Farmers Home Administration.\textsuperscript{57}

While these underlying themes will continue to impact the ongoing debate over agricultural policy and its implementation, new realities are emerging that may affect the future of agricultural law. The export boom of the 1970s, followed by the unfavorable decline of the agricultural balance of trade in the early 1980s, has focused attention on institutions and laws that affect international agricultural trade.\textsuperscript{58} Will im-

\textsuperscript{54} For an argument favoring significant measures to preserve traditional family farms, see M. Strange, \textit{FAMILY FARMING: A NEW ECONOMIC VISION} (1988). For proposals emanating from the agri-business orientated Agricultural Policy Working Group, see Agricultural Policy for the 1990s (June 1989).


\textsuperscript{56} Overriding issues include public funding of research programs and who shall control authorization of these projects. Recent litigation over the Hatch Act illustrates the intensity of concern over whether current research has focused too much on technological developments suited to large-scale agriculture at the expense of small farms. \textit{See} California Agrarian Action Project, Inc. v. Regents of the Univ. of Cal., 210 Cal. App. 3d 1245, 258 Cal. Rptr. 769 (1989).

\textsuperscript{57} FmHA, formally established in 1946 as an agency within USDA, grew out of Great Depression programs to keep farmers on the land by providing credit to farmers who could not obtain credit from conventional lenders. \textit{See} 7 U.S.C. §§ 1981-2006 (1988). The farm financial crisis of the 1980s saw many FmHA borrowers in financial distress and much litigation. This crisis also produced legislation and revision of administrative regulations as borrowers sought to compel FmHA to provide loan servicing in accordance with due process requirements and the intent of Congress. For a discussion of lingering problems with loan servicing, see Lancaster, \textit{Current Issues in FmHA Loan Servicing}, 23 U.C. \textit{DAVIS L. REV.} 713 (1990). A current debate concerns whether the FmHA farmer loan programs should continue, be replaced by FmHA guaranteed loans made to eligible farmers by other lenders (a current trend), or be abolished. \textit{See} U.S. \textit{GENERAL ACCOUNTING OFFICE, FINANCIAL AUDIT: FARMERS HOME ADMINISTRATION'S LOSSES HAVE INCREASED SIGNIFICANTLY} (AFMD-89-20, 1989); \textit{Targeting FmHA for Destruction}, \textit{SML FARM ADVOC.}, Winter 1988-1989, at 1; \textit{It Is Time for a New Farmers Home Administration}, \textit{SML FARM ADVOC.}, Winter 1988-1989, at 3; \textit{New Commission Study Denounces Beginning Farmer Programs}, \textit{SML FARM ADVOC.}, Winter 1988-1989, at 14; Thomas, \textit{Harvest of Red Ink}, Newsweek, Sept. 18, 1989, at 38.

\textsuperscript{58} For a discussion of international agricultural issues, see Heron & Walther, \textit{Pacific
important aspects of U.S. farm policy for the 1990s be written in Geneva as the current Uruguay GATT\textsuperscript{59} Round draws to a conclusion?\textsuperscript{60} Can the various sectors of American agriculture compete in world markets governed by a purported level playing field?\textsuperscript{61} What is the future of American law as to trade remedies for agriculture and as to protectionist trade barriers and trade distorting devices?\textsuperscript{62} Whatever the answers, the development of institutions and rules related to international agricultural trade promises to have an important impact on the structure and profitability of American agriculture.

Additionally, environmental concerns continue to multiply. Many view production agriculture as a major polluter, if not the major polluter in this country.\textsuperscript{63} Continuing pressure on Congress and on state legislatures to restrict objectionable agricultural practices will intensify.\textsuperscript{64} Currently, considerable national discussion focuses on the concept of "alternative agriculture." This term relates to the promotion and use


\textsuperscript{59} "GATT" refers to the General Agreement on Tariffs and Trade.

\textsuperscript{60} For a discussion of this issue, see Rausser \& Nielson, \textit{Looking Ahead: Agricultural Policy for the 1990s}, 23 U.C. \textsc{Davis L. Rev.} 415 (1990); \textit{see also U.S. Dep't of Agriculture, Selected Speeches and News Releases}, Apr. 13-Apr. 20, 1989, at 1-6 (statement of Clayton Yeutter, Secretary of Agriculture).

\textsuperscript{61} The Secretary of Agriculture, Clayton Yeutter, consistently has expressed optimism on this point and has supported the U.S. negotiating position in the current GATT round. Certain farm groups and agricultural economists increasingly are challenging the notion that U.S. agriculture has a comparative advantage in most agricultural sectors.

\textsuperscript{62} For a summary of current law and practice, see Pedersen, \textit{U.S. Agricultural Trade Legislation: An Overview} (pts. 1 \\& 2), \textsc{Agric. L. Update} 4 (Feb. 1989), \textsc{Agric. L. Update} 4 (Mar. 1989).

\textsuperscript{63} While attention on agricultural sources has intensified in the 1980s, the concern is not new. \textit{See} Hines, \textit{Agriculture: The Unseen Foe in the War on Pollution}, 55 \textsc{Cornell L. Rev.} 740 (1970). For a discussion of the impact of agricultural practices on water pollution, see Gould, \textit{Agriculture, Nonpoint Source Pollution, and Federal Law}, 23 U.C. \textsc{Davis L. Rev.} 461 (1990).

\textsuperscript{64} This author anticipates renewed efforts by environmental groups to add more requirements and programs in the 1990 Farm Bill. Congress may issue this Bill in the near future.

of production practices that reduce reliance on inputs, sustain soil resources and preserve water quality, and insure farmers reasonable economic returns.\textsuperscript{65} Experiments, research, and pilot projects abound.\textsuperscript{66} If this movement becomes a major force in American agriculture, a host of new legal issues will need to be addressed.\textsuperscript{67}

Finally, the revolution in agricultural biotechnology\textsuperscript{68} will influence the future development of law and institutions aimed at agriculture. Questions regarding the regulation of agricultural research\textsuperscript{69} and the

\textsuperscript{65} Alternative agriculture is distinguishable from organic farming. Alternative agriculture contemplates reduced use of agricultural chemicals, and organic farming contemplates no chemical usage. The term "low-input sustainable agriculture" (LISA) sometimes characterizes alternative agriculture. The future of LISA, unless imposed by regulatory measures, depends primarily on acceptance by farmers as not only an environmentally sound way to produce, but a method that will preserve or even enhance economic returns. See National Research Council, \textit{Alternative Agriculture} 195 (1989). While a need remains for additional economic studies, the National Research Council has concluded that there is "a growing body of contemporary data [that] supports the economic viability of alternative farming practices and systems." \textit{Id.} at 195-96.

\textsuperscript{66} Examples include the work of the Aldo Leopold Center for Sustainable Agriculture at Iowa State University; ATTRA (Appropriate Technology Transfer for Rural Areas, an information clearinghouse) at the University of Arkansas; and programs funded under the Low-Input/Sustainable Agricultural Research and Education Grants Program (LISA). See F. Madden, \textit{LISA 89 Guidelines} (Cooperative State Research Service, U.S. Dep't of Agriculture, 1988).

\textsuperscript{67} Examples include increased conflicts between landowners over use of chemicals (such as problems with drift); possible need to "district" to protect certain plant varieties from unwanted cross-pollination; site-specific regulation of use of certain fertilizers, pesticides, fungicides, insecticides, and growth regulators; and constitutional limits on the use of the state's police power to regulate agricultural practices. Certain federal bills could affect the administration of federal farm programs. See S. 970, 101st Cong., 1st Sess. (1989); S. 1063, 101st Cong., 1st Sess. (1989). For a review of state programs, see G. Meeks, \textit{State Policy Issues in Sustainable Agriculture} (National Conference of State Legislatures, 1989).

\textsuperscript{68} With the development of biotechnology, prospects abound for the use of transgenic animals as research and production vehicles; the introduction into production cycles of high-yield, nutrition enhanced, genetically manipulated plants for major crops; the use of biopesticides (insertion of poison-making genes into crop plants); and alteration of production cycles. Prospects also exist for reduced use of nitrogen fertilizers. Plants other than legumes can have genes inserted that will cause the production of nitrogen-fixing nodules on roots. In the near future, it should be possible to use antibodies to detect pesticide residue in on-site field testing.

release of genetically altered microorganisms into the environment\textsuperscript{70} already are being addressed. Of potential significance is the possibility that genetic manipulation will be used to alter biological timetables. Cash flow patterns, labor needs, and the character of many associated legal issues may change if new production schedules result for certain livestock and cropping operations.\textsuperscript{71}

This Introduction provides a basic framework for thinking about and working with agricultural law issues. While academic debate may exist over the precise definition and scope of agricultural law, the recent attention to the law's effect on agriculture has increased dramatically. As Neil Harl pointed out in 1982, "Agricultural law is beyond the point of serious challenge to its existence and has taken its place in the intellectual firmament."\textsuperscript{72} From its earlier days, when most academic activity was centered in Colleges of Agriculture,\textsuperscript{73} agricultural law has emerged as a distinct course of study in many law schools\textsuperscript{74} and as an announced area of concentration in numerous law firms.\textsuperscript{75} The founding of the American Agricultural Law Association in 1980 marked the coming together of academics, lawyers, economists, government officials, and others to foster interdisciplinary study and conceptualization of this important area of the law.\textsuperscript{76} This Symposium represents the joint effort of


\textsuperscript{71} For a discussion of these issues, see supra notes 33-42 and accompanying text.


\textsuperscript{73} For an overview of this history, see Ellis, Collaboration Between Law and Agriculture, 7 J. LEGAL EDUC. 65 (1954). Significant work on agricultural law issues continues in a number of agricultural economics departments in land grant universities and in associated agricultural experiment stations.


\textsuperscript{75} A growing number of firms now list agricultural law as a specific area of practice, and in some cases, the sole area of practice. See Martindale-Hubbell Law Directory (1989).

\textsuperscript{76} The American Agricultural Law Association maintains its national office in the Robert A. Leflar Law Center, University of Arkansas, Fayetteville, Arkansas.
the U.C. Davis Law Review and the American Agricultural Law Association to focus attention on selected policy and legal questions important to the future of American agriculture.\textsuperscript{77}

\textsuperscript{77} Many authors developed the Articles in this Symposium for the 10th Annual Meeting and Educational Conference of the American Agricultural Law Association, San Francisco, Nov. 3-4, 1989.