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He that judges without informing himself to the utmost that he is capable, cannot acquit himself of judging amiss.

— John Locke

Coop's qualification under I.R.C. Section 521

The Eighth Circuit Court of Appeals has delineated rules concerning nonpatronizing cooperative shareholders. *Farmers Cooperative v. Commissioner*, 822 F.2d 774 (1987). The court also remanded the case for consideration of the § 521(b)(2) requirements concerning qualifications of producers.

Section 521(b)(2) of the Internal Revenue Code requires that producers of a cooperative with capital stock must own "substantially all" of the capital stock in order for the cooperative to qualify as an exempt cooperative. This has been interpreted in various rulings to require producers to own at least eighty-five percent of the capital stock. *See* 2 Agric. L. Update 3 (May 1985).

The tax court found that Farmers Cooperative did not qualify as an exempt cooperative for two tax years because eighty-five percent of its shareholders were not producers. Farmers Cooperative disputes this determination, claiming that the IRS erred in their computation of the number of producer shareholders.

The first computation dispute concerned new producer-members who became entitled to a share of capital stock during the tax year. The IRS argued that since these producers did not become members until the close of the tax year, they were not shareholders.

The Eighth Circuit disagreed, holding that the relevant consideration is whether new members had the right to vote at the annual shareholder's meeting following the close of the tax year. Since the record showed that these new members were able to vote at this meeting, they were shareholders.

The second challenged computation involved shareholders who failed to patronize the cooperative. The IRS counted these shareholders as nonproducers, since their stock had not been redeemed prior to the subsequent annual meeting. Farmers Cooperative argued that such nonproducers were not shareholders because the cooperative's bylaws provided that "only producers of agricultural products" may own common stock. Farmers Cooperative also noted that nonpatronizing shareholders had not been allowed to vote at the annual meetings following the tax years in issue.

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FmHA softwood timber loan program

With the recent publication of final rules for the "softwood timber loan" program, a limited number of FmHA borrowers may have a new loan servicing alternative available to them. 52 Fed. Reg. 26130 (July 13, 1987) (to be codified at 7 C.F.R. § 1951.46). Authorized by the Food Security Act of 1985, the softwood timber loan program permits the FmHA to reamortize and defer farmer program loans of financially distressed borrowers by converting all or a part of the borrower's indebtedness to a softwood timber loan. Payments on the converted portion can be deferred for up to forty-five years and reamortized for up to fifty years.

Eligibility for the program is restricted, primarily because of the dual purpose of the program. First, because the program is intended to assist financially distressed FmHA farmer program loan borrowers, eligibility is limited to borrowers who "cannot project a positive cash flow by using other authorities including rescheduling, reamortizing or deferral at the maximum term." Second, because the program is also intended to convert marginal land from agricultural production to the production of softwood timber, only borrowers owning contiguous fifty-acre parcels of marginal agricultural land suitable for conversion to softwood timber production are eligible.

A further overriding restriction is that no more than 50,000 acres can be accepted in the program nationwide. In other words, at most, only 1,000 borrowers will be able to take advantage of the program on a "first come, first served" basis.

Eligible land will be at least fifty contiguous acres of marginal land that has been used within the last five years for agricultural production or pasture and that would be suitable for softwood timber production. Identification of suitable land is ultimately the responsibility of the Soil Conservation Service.

The first inquiry as to financial eligibility is whether the borrower can project a positive cash flow using the FmHA's other loan servieing options. If the borrower can do so, he is not eligible for the program. However, if the borrower cannot project a positive cash flow using those options, but could project a positive cash flow by reamortizing and deferring payment of up to $50,000 of his indebtedness for forty-five years, the borrower may be eligible.

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CO-OP/CONTINUED FROM PAGE 1

The court concluded that Farmers Cooperative failed to show that the bylaw provisions were self-executing and that nonpatronizing shareholders were not entitled to vote at subsequent annual meetings. Although the evidence showed that none of these shareholders voted, the absence of the cancellation of voting rights meant that these shareholders must be counted in determining whether substantially all (85%) of the shareholders were producers.

As a final matter, the court remanded the case to the tax court for a determination of whether every person doing business with Farmers Cooperative qualified as a producer. Rev. Proc. 73-39, 1973-2 C.B. 502 states that a person must market more than fifty percent of particular products they have produced, or purchase more than fifty percent of their supplies and equipment of the type handled by the cooperative, to qualify as a producer under Section 521.

— Terence J. Centner

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FMHA/CONTINUED FROM PAGE 1

In the formal application process, the borrower will have to satisfy other eligibility requirements ranging from possessing the requisite managerial ability to produce softwood timber to the ability to finance the planting and management of the timber until its harvest and sale at the end of the deferral period. This program contemplates that the proceeds of the timber will pay most, if not all, of the indebtedness placed under the softwood timber loan.

— Christopher R. Kelley

Veterinarians and statutes of limitations

The case of Southall v. Gabel, 277 N.E. 2d 230 (Ohio App. 2d 1971) illustrates the problem of deciding which statute of limitations applies to a malpractice action against a veterinarian. Here, a veterinarian clinician at Ohio State University was sued for malpractice in the treatment and transportation of a horse.

The veterinarian's defense was that the one-year statute of limitations for malpractice, Ohio Rev. Code Ann. § 2305.11, had expired. The trial court found that a patient and physician relationship existed between the veterinarian and his client and "therefore, any act or acts of negligence on the part of the defendant would fall within the legal concept of malpractice." 277 N.E.2d 230, 231.

The appellate court disagreed, saying that at the time the legislation was enacted, only physicians and lawyers were in the mind of the legislature. After stating that the patient-physician relationship was that between the colt and Dr. Gabel, the court said, "that, in the slang vernacular, is 'a horse of a different color'. . . [U]ntil the Supreme Court speaks, veterinarians are not included in the definition of malpractice." 277 N.E.2d 230, 232.

The case was remanded and the trial court found for the defendant veterinarian on approximate cause issue. Further proceedings affirmed the trial court findings.

On the issue of what statute of limitations should apply to a malpractice action against a veterinarian, it can be argued that veterinarians should be considered in the same light as physicians and that a statute of limitations which applies to one should apply to the other.

If, however, other courts were to follow the lead of Ohio, then in any particular state it would become necessary to examine statutes of limitations for both tort and contract actions, assuming that a case against a veterinarian might be based on contract. This could lead to disparate results, since generally a longer period is allowed for written contracts — six years being a usual one, an equal or shorter period for oral contracts — six and three years being common, and a still shorter period for personal injury tort actions — generally two years, but in some instances, a shorter period if it is a malpractice action.

For veterinarians, another anomaly exists in the difference between statutes of limitations for damage to personal property and to persons. Many of the suits against veterinarians involve damage to persons rather than or in addition to damage to animals. Thus, in a state such as Illinois, where the statute is five years for damage to personal property and two years for damage to a person, different periods could apply arising out of the same conduct of a veterinarian.

In conclusion, it is suggested that one possible solution is for state veterinary medical associations to seek legislation providing that the statute of limitations for medical malpractice apply also to veterinary medical malpractice and that tort law apply in veterinary medical malpractice cases.

— H.W. Hannah

CCC/ASCS setoff approved

Brooks Farms, a dairy farming partnership, filed a Chapter 11 petition. The Commodity Credit Corporation asserted a setoff of $20,763 against an obligation which the debtor owed the CCC as a result of the debtor's participation in a CCC corn deficiency program.

The debtor argued that the Agricultural Stabilization and Conservation Service had transferred the claim to the CCC during the 90-day pre-petition period and while the debtor was insolvent. Therefore, the debtor maintained, the CCC's claim fell under one of the listed exceptions to the use of setoff. 11 U.S.C. § 553(a) (2).

The debtor had filed its applications for participation in the corn deficiency program with the ASCS. The court held in *In re Brooks Farms*, 70 Bankr. 368 (Bankr. E.D. Wis. 1987), that although the ASCS had accepted and approved the debtor's applications, the claim was always that of the CCC and not of the ASCS. The court found that there had never been a transfer, making 11 U.S.C. § 553(a) (2) inapplicable.

In support of its holding allowing the setoff, the court found that the CCC has no employees, and that the ASCS, a separate agency, acts on behalf of the CCC and administers all of the CCC government programs, including the corn deficiency program. Further, the promissory note signed by the debtor was made payable to the CCC and the corn deficiency program agreement specified that the CCC was responsible for program payments.

— Julia R. Wilder

Federal Register in brief

The following is a selection of matters published in the *Federal Register* in the last few weeks.

1. **IRS.** Income Tax; Limitation on the Use of Cash Method of Accounting; Temporary Regulations. Effective for taxable years beginning after Dec. 31, 1986. 52 Fed. Reg. 22764.

2. **APHIS.** Introduction of Organisms and Products Altered or Produced Through Genetic Engineering Which are Plant Pests or Which There is Reason to Believe are Plant Pests; Final Rule. Effective date: July 16, 1987. "Final regulations setting up a permit system that imposes federal rules on the importation, interstate shipment and environmental release of genetically engineered organisms and products that may be plant pests... [T]he regulations allow issuance of a single limited permit, valid for one year, to an individual moving...articles interstate between facilities designed to contain the organisms and prevent their release...The regulations also require APHIS to complete its review of permit applications within 60 to 120 days..." USDA news release. 52 Fed. Reg. 22892.

3. **EPA.** Criteria for Identifying Critical Aquifer Protection Areas; Interim Final Rule and Request for Comments. Effective date: June 26, 1987. Comments accepted until Sept. 24, 1987. 52 Fed. Reg. 23982.

4. **USDA.** Highly Erodible Land and Wetland Conservation; Interim Rule With Request for Comments. Effective date: June 29, 1987; Comments due by Aug. 28, 1987. This "amendment to the interim rule substitutes the use of required conservation systems as provided for in the Soil Conservation Service (SCS) field office technical guides as opposed to reliance on soil loss tolerance levels characterized as 'T' values." 52 Fed. Reg. 24132.

5. **FCIC.** Administrative Regulations; Appeal Procedure. Effective date: July 30, 1987. Prescribes procedures under which a person who has been determined by FCIC as being ineligible for crop insurance may request review of the determination of ineligibility. 52 Fed. Reg. 24277.

6. **FGIS.** Official U.S. Standards for Grain; Final Rule. Effective date: June 30, 1987. 52 Fed. Reg. 24414.

7. **FGIS.** Grain Handling Practices; Final Rule. Effective date: July 30, 1987. Regulations prohibiting the recombining or adding of dockage or foreign material to grain. 52 Fed. Reg. 24432.

8. **FGIS.** Insect Infestation in Grain; Final Rule. Effective date: May 1, 1988. 52 Fed. Reg. 24438.

9. **IRS.** Income Taxes; Passive Activity Losses and Credits, Investment Interest, and Personal Interest Limitations; Allocation of Interest Expense; Temporary Regulations. The temporary regulations are effective with respect to interest expense paid or accrued in taxable years beginning after Dec. 31, 1986. 52 Fed. Reg. 24996. An upcoming in-depth article in the *Update* will discuss these regulations.

10. **FmHA.** Deferral, Reamortization, and Reclassification of Distressed Farmer Program Loans for Softwood Timber Production; Final Rule. Effective date: July 13, 1987. 52 Fed. Reg. 26130. See accompanying article in this issue of the *Update* for detailed discussion.

11. **ASCS.** Payment Limitation; Provisions Common to More Than One Program; Final Rule. Effective date: July 14, 1987. The final rule adopts the Mar. 24, 1987, 52 Fed. Reg. 9302, proposed rule which provided "that, for the purpose of applying statutory payments limitations, an individual shall not be denied status as a separate person solely on the basis that a family member: (1) Cosigns for or makes a loan to the individual, and (2) leases, loans or gives the individual equipment, land or labor, if the individual and the family member were organized as separate units prior to December 31, 1985. The proposed rule also provided that a cooperative association of producers that markets commodities for producers would not be considered to be a 'person' with respect to the commodities so marketed." 52 Fed. Reg. 26294.

12. **PSA.** Central filing System; State Certification; Vermont. Dated: July 13, 1987. 52 Fed. Reg. 27035.

13. **BLM.** Grazing Administration; Amendments to the Grazing Regulations; Proposed Rulemaking; Correction and Extension of Comment Period. Comments due Aug. 19, 1987. 52 Fed. Reg. 27321.

14. **ASCS.** Conservation Reserve Program; Erosion Eligibility and Liquidated Damages; Interim Rule. Comments due by Sept. 21, 1987. 52 Fed. Reg. 27536.

— Linda Grim McCormick

AG LAW CONFERENCE CALENDAR

Agricultural Chemicals and Groundwater Protection: Emerging Management and Policy.
Oct. 22-23, 1987, Radisson Hotel, St. Paul, MN.

Topics include case examples of state and local initiatives to manage agri-chemicals.

Sponsored by the Freshwater Foundation in cooperation with the EPA, SCS, American Farm Bureau Federation, and others. For more information, call Linda Schroeder, 612/471-8407.

National Conference of Bankruptcy Judges.
Oct. 21-24, Hilton Hotel, New Orleans, LA.

Topics include: selected problems in Chapter 12, current developments in jurisdiction, setoffs and recoupment.

Sponsored by ABA Bankruptcy Committee and others.

For more information, contact Sixty-First Annual Meeting, 201 St. Charles Ave., P.O. Box 23, New Orleans, LA 70170.

Penn State October Federal and State Income Tax Workshop.
Oct. 5-6 Pittsburgh,
Oct. 8-9 Meadville,
Oct. 12-13 Lancaster,
Oct. 14-15 Williamsport

Topics include: preproductive expenses, investment credit carryback, taxes and minor children.

Sponsored by Penn State Cooperative Extension Service.

For more information, call: 814/865-7656.

ALI-ABA Tax Planning for Agriculture.
Oct. 8-10, Adam's Mark Hotel, St. Louis, MO.

Topics include: type and number of entities to use for tax purposes and governmental payments, income tax planning after TRA 86, and loan workouts and Chapter 12.

For more information, call 800/CLE-NEWS or 215/243-1630.

Lender Liability Litigation.
Sept. 21-22,
New York City, The Westbury Hotel.
Oct. 22-23, Los Angeles, Century Plaza Hotel.

Topics include: issue of control in the lender liability suit, conflict of interest, and prosecuting the lender liability case for the borrower in bankruptcy.

Sponsored by the Practicing Law Institute.

For more information, call 212/765-5700, ex. 271.

Patent rights in biotech developments

by James B. Wadley

In recent years, the application of technical and industrial processes to biological systems and organisms has become a tremendously important and lucrative aspect of our culture. It has become possible not only to improve existing strains and varieties of plants and animals, but to modify basic genetic materials themselves. Despite concern as to the impact on human health and safety of some of these techniques, the technology appears to be here to stay. It is expected that future developments will be every bit as far reaching as have been the past innovations.

In addition to the ethical and health ramifications of these developments, attention has been drawn to the extent to which the law will protect one's interest in and the commercial opportunities to exploit these technologies. *See, e.g., Symposium on Biotechnology Law,* 11 Rutgers Computers & Tech. L.J. (1986); Looney, *Emerging Legal Issues Associated with the Application of Embryo Transfer Technology in Livestock Agriculture,* 34 Drake L. Rev. 321 (1984-85); Wershon, *International Ramifications of Biotechnology,* 37 Fla. Int'l. L.J. 1 (1983); Mills, *Patenting Life Forms under 35 USC § 101; Diamond v. Chakrabarty,* 3 Northrup U. L.J. 131 (1981); Jaworski, *Biotechnology: Prospects and Perspectives,* 34 U. Kan. L. Rev. 655 (1986); Withers, *Biotechnology: An Industry Perspective,* 34 U. Kan. L. Rev. 665 (1986); Abramson, *Confidential Business Information versus the Public's Right to Disclosure — Biotechnology Reviews the Challenge,* 34 U. Kan. L. Rev. 681 (1986).

Systematic exploration of this area, however, is just starting, and there are currently few precedents to help guide or clearly forecast the enforceability of rights that might be associated with these innovative developments.

For the most part, legal rights associated with biotech developments will be recognized, if at all, under the rubric of either contract law or property law. Of the two, the "property" aspects have been of most concern. The property rights will be asserted and protected primarily through such devices as trade secrets and patents. Somewhat less likely, protection may be possible under trademark or tradename law, copyright law, general personal property law, or under the Plant Variety Protection Act. This article focuses primarily on patents.

Patents

Patents are exclusively the object of federal statute. The current statute is the Patent Act of 1952, codified as Title 35 of the United States Code. Anyone who "invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvements thereof, may obtain a patent," subject to the conditions and requirements of the law. 35 U.S.C. § 101. To be patentable, the discovery must fall within "one of the express categories of patentable subject matter of 35 U.S.C. § 101." *Kewanee Oil Co. v. Bicron Corp.,* 416 U.S. 470 (1974). These inventions will generally be classified as either *product* inventions or claims (machines, manufactures, and compositions of matter) or *process* inventions, although the substantive protection in most cases does not vary extensively with the category. *In re Bergy,* 563 F.2d 1031 (C.C.P.A. 1977). Most microbiological inventions of concern here will likely fit the categories of "compositions of matter" or "manufactures," if they qualify at all and will thereby be "product" inventions. It is possible, however, to patent the process by which the microbiological invention is engineered.

In addition to satisfying the requirement that the invention fit within one of the identified categories of the statute, the invention must be "useful," "novel," and "non-obvious." Usefulness is generally satisfied if the invention has some useful purpose even though that might not be its primary or principal use. Implicit in this concept, however, is the notion of "operativeness," which requires that the machine or invention be capable of operating to perform its intended purpose. *See, e.g., Brenner v. Manson,* 383 U.S. 519 (1966).

"Novelty" does not mean absolutely "new." Rather, it is defined by the conditions set forth in 35 U.S.C. § 102, which basically insure that the invention not be anticipated by a single earlier development, printed publication, or public use. The concept is also designed to make sure that the claimant is indeed the "inventor."

The "non-obviousness" concept focuses on the issue of whether the claim is truly an "invention." The "invention" must be different from anything suggested by the prior art in ways that are not obvious to persons "having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103. *See, e.g. Graham v. John Deere Co.,* 383 U.S. 1 (1966).

Plant patents

In 1930, the Patent Act was amended to give patent protection to those who develop certain new varieties of plants. 35 U.S.C. § 161-164. These provisions extended patent protection to asexually reproduced plants on the apparent theory that "a plant discovery resulting from cultivation is unique, isolated, and is not repeated by nature, nor can it be reproduced by nature unaided by man..." 3 Deller's Walker on Patents, § 192 (2d ed.). This orientation has excluded "products of nature" from patent protection. *See, Funk Bros. Seed Co. v. Kalo Co.,* 333 U.S. 127 (1948). Sexually reproduced plants, on the other hand, were specifically excluded from patent protection on the theory that new varieties could not be reproduced true-to-type through seedlings. *Diamond v. Chakrabarty,* 447 U.S. 303 (1980).

Under the plant patent provisions of the Patent Act, "whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings... may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 161. Courts have considered that the "asexual reproduction" requirement is the heart of the plant patent system and that "the whole key to the 'invention' of a new plant is the discovery of new traits *plus* the foresight and appreciation to take the step of asexual reproduction." *Yoder Bros., Inc. v. California-Florida Plant Corp.,* 537 F.2d 1347, 1380 (5th Cir. 1976). *See also, Ex Parte Moore,* 115 U.S.P.Q. 145 (U.S. Patent Office Board of Appeals 1957): "It seems to us that although one may find a plant, he has not discovered a new variety if he has no appreciation that the plant is a distinct and new variety."

Plant Variety Protection Act

By 1970, it was generally recognized that true-to-type reproduction of plants was possible. Congress adopted the Plant Variety Protection Act to give patent-like protection to sexually reproduced plants. It should be noted that while the protection is very similar to that afforded patented plants, this act is not part of the federal patent laws and it is the Secretary of Agriculture rather than the patent office who issues certificates of Plant Variety Protection for qualified applications.

The Plant Variety Protection Act and the plant patent provisions of general patent law have long been considered to be mutually exclusive. If a plant was protectable under the plant patent provisions, it would not qualify under the Plant Variety Protection Act, and vice versa. Since the case of *Diamond v. Chakrabarty,* 447 U.S. 303 (1980), it appears that varieties which otherwise could be protected under the Plant Variety Protection Act may also be eligible for patent protection under the general patent laws (though not as plant patents). (Indeed, it was the fungi and bac-

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teria exceptions in the Plant Variety Protection Act which led to the litigation which culminated in the *Chakrabarty* decision. *See also Ex parte Hibberd* 227 U.S.P.Q. 447 (Board of Patent Appeals, Sept. 18, 1985), specifically including plants within 35 U.S.C. § 101.)

Diamond v. Chakrabarty

In *Chakrabarty,* a microbiologist sought to patent engineered bacteria that consumed crude oil, a development with oil spill applications. The application was denied on the ground that it was either a "product of nature" or a living organism, neither of which was patentable. The Supreme Court, however, found the discovery was patentable on two grounds: as a new and useful composition of matter and as a new and useful manufacture. Further, the court found that Congress had not intended to exclude living things from the scope of the Patent Act through the adoption of either the Plant Patent Act or the Plant Variety Protection Act. Thus, if there is sufficient human intervention in the development of the microorganism, so that it did not occur naturally, there is no reason to preclude patent protection, if the "invention" otherwise qualifies (as novel, non-obvious, etc.). For further discussion, see Wershon, *International Legal Ramifications of Biotechnology,* 34 Fla. Int'l L.J. 1 (1983). Therefore the invention may no longer be disqualified solely on the ground that it is a living thing. *See* Dunner, *Future Impacts of Patentability,* 4 Recombinant DNA Techn. Bull. 55 (1981).

Specifics of qualifying for patents

The *Chakrabarty* case indicates that living things may be eligible for utility patent protection as "compositions of matter" or as "manufactures." This, of course, does not insure that any particular "invention" is patentable. All relevant requirements of the patent laws must be satisfied — which may not be an easy task. For example, in a recent case, *In re Merat,* 519 F.2d 1390 (C.C.P.A. 1975), decided since *Chakrabarty,* the court affirmed the rejection of a patent application for a new animal variety, based upon the applicant's failure to follow requirements of the Patent Act rather than that the thing was not patentable.

In a more recent development, the Board of Patent Appeals and Interferences reversed a decision by patent examiners who had rejected an application for a patent on oysters that were said to be edible year around solely on the ground that the object of the application was a "living entity." *Ex parte Allen,* 2 U.S.P.Q.2d 1425 (1987). This clearly opens the door for granting patents for animals.

Probably the most difficult requirements to meet will be those relating to the description of the invention. The application must contain a written description of the invention, and the manner and process of making it, in full, in clear, concise and exact terms. Sufficiency of the description is measured by whether a person reasonably skilled in the applicable art could replicate the invention. The disclosure must also contain a description of the best mode by which the invention can be carried out. 35 U.S.C. § 112. Finally, the disclosure must detail the particular claims the invention makes that set the invention apart from other developments.

Because of the complex nature of microbiological inventions and the lack of an adequate vocabulary, it has been difficult in the past to provide this information. In response to this difficulty, the United States Patent and Trademark Office has developed guidelines that will assist some. *See,* Withers, *Biotechnology: An Industry Perspective,* 34 U. Kan. L. Rev. 665, 674 (1986); U.S. Patent and Trademark Office: Class 935 — Genetic Engineering: Recombinant DNA Technology and Relation Manipulations of Nucleic Acids, Cooper, Biotechnology and the Law, Appendix 3; Clark Boardman Co. (1987).

A second difficulty will be establishing that the claimant is the inventor. This problem is twofold. Unlike other nations which give patent protection to the first to file, the United States gives protection only to the first inventor. 35 U.S.C. § 102(g). As a general rule, this is the individual who conceives of the invention and then reduces it to "practice" (that is, to some distinct physical form). Where different individuals contribute to the development, joint patenting is possible, although it may be difficult to determine who all the acceptable "inventors" are. Where more than one person collaborates on the project, it has been required that "each of the inventors work on the same subject matter and make some contribution, to the inventive thought and to the final result . . . [and] make some original contributions, though partial, to the final solution of the problem." *Monsanto Co. v. Kamp,* 269 F. Supp. 818 (D.D.C. 1967).

The other aspect of the invention problem is even more difficult. It is not clear from *Chakrabarty*, or any of the other cases, how much human intervention is required before the result will be considered an "invention." *See, e.g., American Fruit Growers, Inc. v. Brogdex Co.,* 283 U.S. 1 (1931); *Funk Bros. Seed Co. v. Kalo Co.,* 333 U.S. 127 (1948); *In re Bergy,* 563 F.2d 1031 (C.C.P.A. 1977). Although *Chakrabarty* affirms the patentability of living things, the law still excludes naturally occurring things. *See e.g., American Fruit Growers, Inc. v. Brogdex Co.,* 238 U.S. 1 (1931), and Judge Baldwin's dissent in *In re Chakrabarty,* 571 F.2d 40, 43 (C.C.P.A. 1978).

On one hand is the argument that all that is required is that the essential nature of the modified organic product be altered only in ways that would not have occurred but for the intervention of the inventor. *See, e.g. Funk Bros. Seed Co. v. Kalo Co.,* 333 U.S. 127 (1948) (distinguished by the court in *Diamond v. Chakrabarty,* 447 U.S. 303, 309-10 (1980)).

On the other hand, there is the argument that the product must be genuinely "new," at least in the sense that it is not merely the result of the application of the laws of nature to a new and useful end. *Diamond v. Chakrabarty,* 447 U.S. 303, 309-310 (1980) (citing *Hartrauft v. Wiegmann,* 121 U.S. 609 (1887)). The only relevant language in *Chakrabarty* on this issue is that the resulting product must be "a product of human ingenuity 'having a distinctive name, character [and] use.'" *Id.* at 309-10. The court approved the invention because "his discovery is not nature's handiwork but his own." Obviously, more direction is needed here. It is arguable that although the court in *Chakrabarty* altered the traditional framework of patent law, it does not appear to have changed the traditional notion that the change wrought must, at a minimum, be directly attributable to human creativity and must not have occurred otherwise.

Issues of novelty and non-obviousness should be less problematic. For the subject matter to be treated as new, as noted above, it cannot be anticipated by prior art. However, for the prior art to be asserted as the basis for denying the patent application, the prior art must share identity with the proposed invention with respect to all the features of the proposed invention. *See, e.g. American Seating Co. v. National Seating Co.* 586 F.2d 611 (6th Cir. 1978), *cert. denied* 441 U.S. 907 (1979).

Somewhat more difficult is the issue of non-obviousness. The invention must not be obvious to one possessed of ordinary skill in the particular art. Relevant factors include: the long-felt need for the improvement, the commercial success of the invention, the failure of others, the extent to which copying has occurred, and the presence of unexpected results. *Perkin-Elmer Corp. v. Computervision Corp.,* 732 F.2d 888 (Fed. Cir. 1984). Ordinary skill, in turn, is affected by such factors as the educational level of the inventor, the type of problems encountered in the art, prior solutions to those problems, the rapidity with which innovations are made,

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the sophistication of the technology and the educational level of workers in the field. *Environmental Designs v. Union Oil Co. of Cal.*, 713 F.2d 693 (Fed. Cir. 1983), *cert. denied* 104 S.Ct. 709 (1984).

Enforcement

Once a patent is secured, several enforcement or policing problems have to be addressed. First, the inventor needs to cope with the distinctly limited nature of the property right that is created. In its broadest sense, a patent only authorizes the holder to exclude anyone else from making, using, or selling the invention. It does not necessarily insure that the inventor will be able to exclusively make, sell, or use the invention himself, only that others can be excluded from doing so. 35 U.S.C. § 154. *See also Deepsouth Packing Co. v. Laitrum Corp.*, 406 U.S. 518 (1972).

Further, the first authorized sale frees the patented item from this monopoly. The purchaser may use, enjoy, or sell the item without infringing the patent and may make needed repairs, including those involving unpatented parts.

This results primarily because of two important considerations. First, the overriding objective of this area of the law is the promotion of free dissemination of information relating to the improvement or advance of the useful arts. This, of itself, requires a narrow constriction of the scope of property rights which will be recognized. Further, it is possible to patent such an improvement, even of an existing invention. The inventor, therefore, needs to anticipate that the invention may spawn improvements more valuable than the invention itself and needs to recognize that the law is structured to encourage this. The inventor should also consider the prospects of licensing the use of the invention to subsequent developers of improvements. This latter concern, of course, raises numerous contract issues that are beyond the scope of this paper.

A final enforcement problem relates to the issue of infringement. The complexity of the microorganism or cells can make it extremely difficult to clearly prove that an allegedly infringing microorganism or cell is actually identical to the inventor's. As a result, it may be necessary to develop evidence as to every possible difference and similarity between the competing products. For suggested typical comparisons that may have to be developed, see Withers, *Biotechnology: An Industry Perspective*, 34 U. Kan. L. Rev. 665, 675 (1986).

Infringement may be of two types — direct and indirect. Direct infringement results when someone does any of the proscribed acts (makes, sells, or uses the patented invention) without permission of the inventor. 35 U.S.C. § 271(a). Proof in these cases typically turns on the scope of the invention as defined in the specific claims and thus resort must be made to the written description of the patented item, the prior art, and the proceedings before the Patent Office on the application for the patent. For infringement to occur, the accused subject matter generally must fall within the specific terms of a specific claim.

Alternatively, using a tort theory, indirect infringement occurs when someone actively induces someone else to violate a patent grant or when someone aids, abets, or encourages or contributes to the direct infringement by someone else. 35 U.S.C. § 271(b). Similarly, one may not sell, without authorization, components of patented items where those parts are known to be made especially for or especially adapted for use in an infringement (unless those items are staples in commerce or are suitable for substantial non-infringing use). 35 U.S.C. § 271(c).

Despite being actionable, indirect infringement is difficult to show. Since the first authorized sale generally terminates the patent monopoly with respect to that particular item, someone who then uses it or resells it is no longer liable for infringement. Likewise, one may make necessary repairs, or replace parts with unpatented parts, and does not commit indirect infringement by doing so. Finally, the doctrine of misuse allows courts to withhold patent protection or relief from someone who improperly extends or otherwise misuses the patent until the patent holder abandons the abusive practice. 35 U.S.C. § 271(d).

With respect to process (as opposed to product) patents, one other significant enforcement difficulty should be noted. Foreign protection of patents varies widely and it is sometimes possible to use the patented process abroad (where such use is not proscribed — or little protection is afforded the inventor) to make products which are then imported into this country to compete with those of the inventor. This practice is currently not considered an infringement of the United States process patent. *See, e.g.*, Withers, *Biotechnology: An Industry Perspective*, 34 U. Kan. L. Rev. 665, 674 (1986).

In conclusion, as things presently stand, the inventor is faced with some difficult choices: protection is possible but may be costly, difficult to enforce, and may involve more disclosure than is deemed desirable. Alternatively, choosing to keep the matter secret may be attractive but difficult to manage if the information is to be economically exploited and certainly will be difficult to police. One thing is clear, however, and that is that as these developments become more prevalent, it is inevitable that the law deal even more squarely with the extent to which economic advantages may be protected at the expense of public access to the innovative ideas and creativity that have generated the very developments for which protection has been sought. As that occurs, insight will emerge as to whether new, alternative, or more extensive methods of protection will need to be developed to correspond to the new biotechnological developments.

— *James B. Wadley*

Genetic engineering opens new chapter controls

On April 24, 1987, scientists released outdoors for the first time genetically altered bacteria on a strawberry field in California's Central Valley. The event made the front page of the *New York Times*, which reported that scientists viewed the action as "a major step toward an era in which advanced tools of molecular biology would be applied ever more widely in agriculture."

But the experiment also marked an important step in the oncoming legal controversy surrounding the new agricultural biotechnologies.

The company involved with the experiment, Advanced Genetic Sciences, Inc. (AGS), had applied for an Experimental Use Permit (EUP) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) to conduct field tests on the effectiveness of two genetically engineered bacteria in preventing frost formation on plants. In November, 1985, the EPA approved the issuance of limited EUPs to the company pursuant to an interim policy for review of such field studies.

Press reports soon revealed that AGS injected trees with the bacteria on an open rooftop rather than in an enclosed facility as required under the EPA's interim policy in order to test whether the bacteria would harm plants. The agency fined the company a total of $20,000 in civil penalties, the maximum under the law, although this was later reduced to $13,000. EPA also suspended the EUP pending new and separate pathogenicity tests. AGS revised its application for an EUP, and this was approved in February, 1987.

This experiment, and others like it, have been confronted with legal challenges since 1983. In that year, the Foundation on Economic Trends filed suit against all involved federal agencies and the University of California for alleged violations of the National Environmental Policy Act of 1969 (NEPA) in a proposed deliberate release experiment. As reported earlier here, this litigation led to federal court guidelines for release of genetically engineered organisms into the open environment. *See* 2 Agric. L. Update 4-5 (June 1985). The parties eventually settl-

STATE ROUNDUP

PENNSYLVANIA. *Security Interest in Crops Does Not Continue Into Cattle*. The case of *In re McDougall*, 60 Bankr. 635 (Bankr. W.D. Pa. 1986), holds that a security interest in feed or grain does not continue into cattle that consume the feed or into the proceeds from the sale of the cattle; the creditor holding a perfected security interest in crops is treated as a general unsecured creditor in the proceeds from the sale of cattle that ate the crops. The case follows *First National Bank of Brush v. Boston*, 564 P.2d 964 (1977).

— *John C. Becker*

PENNSYLVANIA. *Family Farm Corporation Exemption From Capital Stock Tax*. A family farm corporation is in the business of leasing, not agriculture, if it owns farmland, farm machinery, and equipment, but leases all of its assets to another corporation that operates a farm business. In the case of *Commonwealth v. Peters Orchard Co.*, 515 A.2d 550 (1986), both the leasing corporation and the operating corporation were owned by members of the same family. The Supreme Court of Pennsylvania held that the corporation engaged in leasing was not entitled to claim the family farm exemption from the Capital Stock Tax, 72 Pa.S. § 7602.2(a), since the leasing corporation was not engaged in the business of agriculture as required for the exemption.

— *John C. Becker*

OKLAHOMA. *Agricultural Mediation Program*. The Agricultural Mediation Program of the Oklahoma Department of Agriculture, under the Dispute Resolution Program of the Supreme Court of Oklahoma, was approved by the Administrator of the Supreme Court on March 1, 1987. The mediation program is available on a voluntary basis to agricultural debtors and their lenders and is meant as a supplement to the existing legal processes. The statutes creating the mediation program, and rules promulgated by the Supreme Court to implement the program, are located in Title 12, Ch. 37 Okla. Stat. Secs. 1801 *et seq.* (1986 Supp.).

The Department of Agriculture has contracted the operation of the agricultural mediation program to the Oklahoma Conference of Churches which will coordinate the program through the AG-LINK HOTLINE. Any farm or ranch debtor or any agricultural creditor can reach the mediation program by telephoning the HOTLINE at 1-800-248-5465. The actual mediations will be handled through regional rural mediation centers.

When a request for agricultural mediation is received by the HOTLINE, the HOTLINE will make two referrals. First, the agricultural debtor will be referred to the Oklahoma State University program called "Intensive Financial Management and Planning Support" (IFMAPS). Through this referral, the agricultural debtor will receive counseling and analysis about his financial condition and potential options to deal with it. Once this counseling is completed, the information will be shared with the creditors also involved in the mediation. After the agricultural debtor has utilized the IFMAPS program, then the HOTLINE will make the second referral to the regional mediation center to arrange for the actual mediation process itself.

The only fee for the Agricultural Mediation Program is a $5.00 per participant charge. Even this fee can be waived if a proper affidavit of inability to pay is filed.

As of May 1, 1987, approximately 30 persons already had been trained to serve as agricultural mediators in existing or proposed rural regional mediation centers. Pilot mediations to test the program and to serve as trial runs from which guidelines specific to agricultural mediation can be issued are scheduled to be held in Major County in the latter part of May 1987.

— *Drew L. Kershen*

MINNESOTA. *Limitations Period for Damage From Pesticide Application*. In *Grossman v. Aerial Farm Services, Inc.*, 401 N.W.2d 676 (1987), the Minnesota Court of Appeals held that a neighboring farmer's trespass action is barred by the two-year statute of limitations applicable to actions for negligent herbicide spraying unless injury can be shown from the trespass independent of the injuries associated with the spraying.

The court of appeals affirmed that Grossman cound not sue for trespass under the applicable six-year statute of limitations if the injuries alleged were identical to those barred from redress by the two-year period for negligent spraying. The controlling statute states: "Except where the Uniform Commercial Code or this section otherwise prescribes, the following actions shall be commenced within two years: (8) Against the person who applies the pesticide for injury or damage to property resulting from the application, but not the manufacture or sale, of a pesticide."

The action arose when Grossman's neighbors contracted with Aerial Farm Services to spray herbicide on their land. Aerial sprayed the wrong section of land directly damaging Grossman's Siberian Elm windbreak. Grossman's original suit, alleging negligent application of herbicide, was barred by the two-year statute of limitations. Grossman then brought this action in trespass, arguing that he should have the benefit of the six-year trespass statute of limitations.

The court of appeals noted the unfairnesss of applying the two-year limitation period in situations where the plaintiff did not order the herbicide application. The statute, however, does not distinguish between cases brought by those ordering application of herbicide and innocent bystanders who would not know the spraying had occurred and may not be able to quickly ascertain what was causing damage to trees on their land. Thus, although the statute is likely to inequitably bar neighboring landowners from redress for negligent spraying, the court asserted that any changes in those results must come from the legislature.

— Gerald Torres

GENETICS/CONTINUED

ed the case after the National Institutes of Health prepared an environmental assessment of the experiment.

In 1986, the EPA refined its procedures for reviewing experiments involving genetically engineered microorganisms. A summary of this aspect of the general Coordinated Framework for the Regulation of Biotechnology appeared in 3 Agric. L. Update 3 (Sept. 1986). The legality of the Coordinated Framework was also challenged by the Foundation on Economic Trends, but the federal district court concluded that the controversies were not ripe for adjudication and the plaintiffs did not have standing to review the action. *See Foundation on Economic Trends v. Johnson*, 661 F. Supp. 107 (D. D.C. 1986); *Foundation on Economic Trends v. Thomas*, 661 F. Supp. 713 (D. D.C. 1986).

The regulatory framework for biotechnology remains complex and controversial. This first open field experiment provides a convenient place for marking a new era in the development of such advanced technologies, but the role of the federal agencies in reviewing agricultural uses of these emerging biotechnologies is still a subject of debate.

A comprehensive study of the issues presented by this controversy is presented in McGarity, *Federal Regulation of Agricultural Biotechnologies*, forthcoming in the University of Michigan Journal of Law Reform.

— *David A. Myers*

Address Correction Requested

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AMERICAN AGRICULTURAL LAW ASSOCIATION NEWS

1987 ANNUAL MEETING. The American Agricultural Law Association will hold its eighth annual conference October 15-16, 1987, at the Omni-Shoreham Hotel, Washington, D.C. This year's theme is "How Washington Works."

Sessions on taxation will be moderated by C. Allen Bock. Phillip L. Kunkel will chair the panel discussion on Chapter 12 in Bankruptcy. The session on "Washington at Work" will be moderated by Philip E. Harris. David A. Myers heads the session on Regulation of Pesticides.

Specific speakers and their topics include: Patrick Bauer on "Historical Background of Ch. 12," Sam Jerdano on "Legislative Process of Ch. 12," Mark Bromley and Judge Robert Martin on "Making Use of Ch. 12," Sonja Hillgren on "A Journalist's Perspective," Rita Reimer on "Sources for Finding the Rules and Regulations," Sherwin Lyman on "Canadian Experience as to Regulation of Pesticides," Thomas McGarity on "An Overview of FIFRA," Al Meyerhoff on "An Environmentalist's Perspective of FIFRA," and W. Scott Ferguson on "An Industry Perspective of FIFRA."

For more information, contact Philip E. Harris, Professor, Agricultural Economics Department, 427 Lorch St., Room 225, Madison, WI 53706; (608) 262-9490.

JOB FAIR. The AALA's third annual Job Fair will be held concurrently with the 1987 Annual Meeting. Notices of available positions will be sent to law school placement offices for dissemination to interested students and both entry level and experienced attorneys.

Interested law students and attorneys should send their resumes to the Job Fair Coordinator. Resumes will be forwarded to interested firms and organizations, and interviews will be scheduled during the conference.

To obtain further information or to arrange an interview, contact the Job Fair Coordinator: Gail Peshel, Director of Career Services and Alumni Relations, Valparaiso University School of Law, Valparaiso, Indiana 46383; (219)465-7814.

AALA SECRETARY-TREASURER'S POSITION. The Board of Directors of the American Agricultural Law Association (AALA) is seeking applications for the position of secretary-treasurer for the 1988 membership year. Letters of application for this position should be submitted by Oct. 1, 1987 to James B. Dean, AALA President, 600 S. Cherry St., Suite 640, Denver, CO 80222.