Background:
Professor Kugler was hired by Major Land-Grant University to develop new cultivars in the last great “public sector” crop. Most major crops are bred predominantly in the private sector, by major corporations like Monsanto, DuPont/Pioneer, Syngenta, and Limagrain. Research on Prof. Kugler’s crop, on the other hand, is still largely done in the public sector by international centers, universities, federal research institutions, foundations, and NGOs.

In this state alone, this crop is planted in more than 1.5 million acres, and is worth between $300 million and $575 million annually at the farm gate. Varieties developed at Major Land-Grant U are currently being grown on about 65% of the cropland in the state, and Prof. Kugler’s program has direct effects on the seed industry, the grain industry, and consumers, along with potential indirect effects on a significant proportion of the state’s economy.

Program support for Prof. Kugler’s project comes from a wide variety of sources, including the university, hatch funds, commodity funds (check-off funds), federal grants, industry gifts, and so on. However, despite these various funding sources, it is becoming increasingly clear that additional funds will be needed to cover rising costs and reduced state support.

Prof. Kugler has the option to add either royalties or research and development fees to the new cultivar releases to help make up some of the expected shortfall. Royalties would be handled under the system-wide royalty split—one third would go to the inventor, and the rest would be split according to the current policy. Given Major Land-Grant U’s reputation of breeding excellence and the likely widespread use of the new releases, Prof. Kugler stands to benefit a great deal personally, should he choose to add royalties. Research and development fees, on the other hand, would be returned to the project for future project use and would significantly benefit the program.

Questions for Discussion:

1. How should Prof. Kugler decide whether to add royalties or research and development fees to the new cultivar releases? Is this merely a matter of his personal preferences? If not, what other factors should he consider, and how should they influence his decision?

2. When is it appropriate for inventors to benefit privately from publically funded research?

3. Given the diverse sources of project funds, how should the fees, whether they are research and development or royalties, be split among the donors?

4. Because of his work, Prof. Kugler is frequently asked to present at field days and to make recommendations on what growers should plant. Does this present (the
appearance of) an inappropriate conflict of interest, given that he and his program stand to benefit from these recommendations? If so, how should this potential conflict be managed? Does it matter whether or not he is benefitting personally from royalties?

Emerging Issues:
Regardless of whether he employs the royalty or research and development fee structure, Prof. Kugler’s program is still likely to face a significant budget shortfall. However, a major seed company has recently purchased a small, but highly successful breeding company in this crop, and now every major company would like to enter the market in the region.

All of these companies want access to Prof. Kugler’s germplasm. In particular, these companies would all like to license Prof. Kugler’s finished lines for sale, and would also like to partner with Major Land-Grant University and Prof. Kugler on the development of new lines. In return, the companies are offering shared fees on licensed and co-released lines. They are also offering support for graduate students, access to information technology platforms and other proprietary technology (including massive use of molecular markers, rapid creation of new lines via doubled haploidy, novel traits, and so on). This would be more than enough to make up the expected budget shortfall, and could provide significant benefits for Prof. Kugler and his program.

Questions for Discussion:

1. Given that all of the major companies want access to the program, how can Prof. Kugler decide with whom to work? How can he ensure that his decision is fair to Major Land-Grant U’s constituents? To each company?

2. What is the correct role in academia of programs that can make an economic impact? What role should the university play in evolving industries? Should these companies, for example, be seen as competitors? As colleagues? As an inevitable market force?

3. Do industry-university partnerships threaten the university’s research independence? Do such partnerships threaten to undermine public confidence in university research? If so, how can these threats be mitigated?

4. If you were Prof. Kugler, how would you explain your actions to your colleagues who have little experience working with companies or program evolution? If your views differ from others within the university how should they be reconciled? How can the university increase the transparency of these partnerships?