



Communicating New Technologies to End-Users

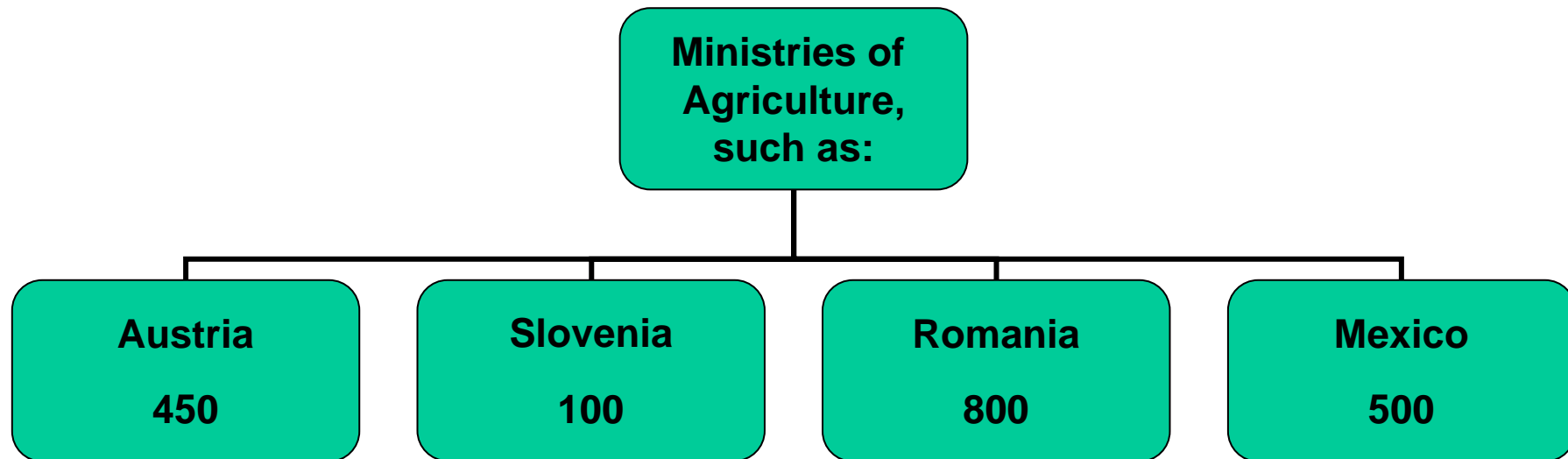
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» Who is Adcon Telemetry?

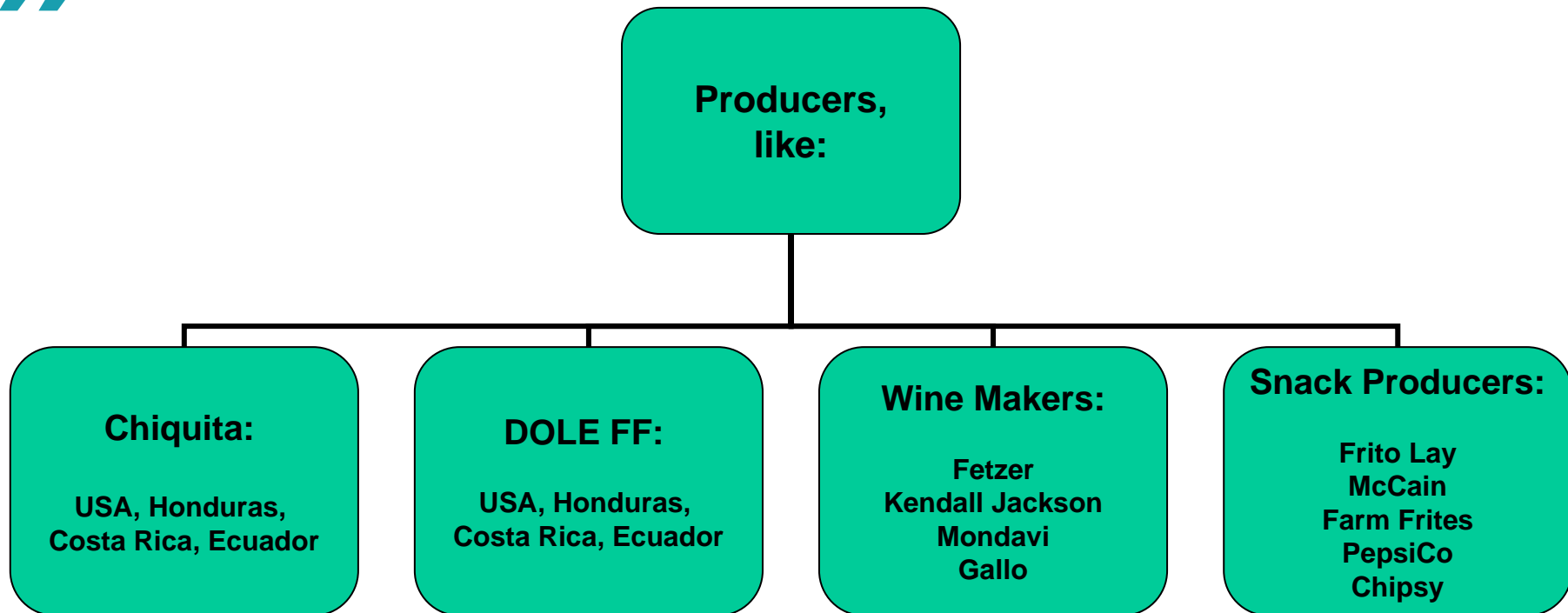


- Established:** 2003 (as continuation of Adcon Telemetry AG's application division, established in 1992)
- Headquarters:** Klosterneuburg / Austria
- Daughter Companies:** Adcon International Inc., Davis, CA, USA
Adcon Telemetry Australia Pty.Ltd, Adelaide, Australia
- Sales Offices:** France, Italy, Montana, Costa Rica
- Employees:** 16 (Europe) + 5 (overseas)
- Technology:** Low Power UHF radio (proprietary), GSM, GPRS
- Distribution:** Indirectly, through a network of 40 distributors worldwide
- Main Product:** Telemetry equipment for Agriculture - Weather stations & soil moisture sensors

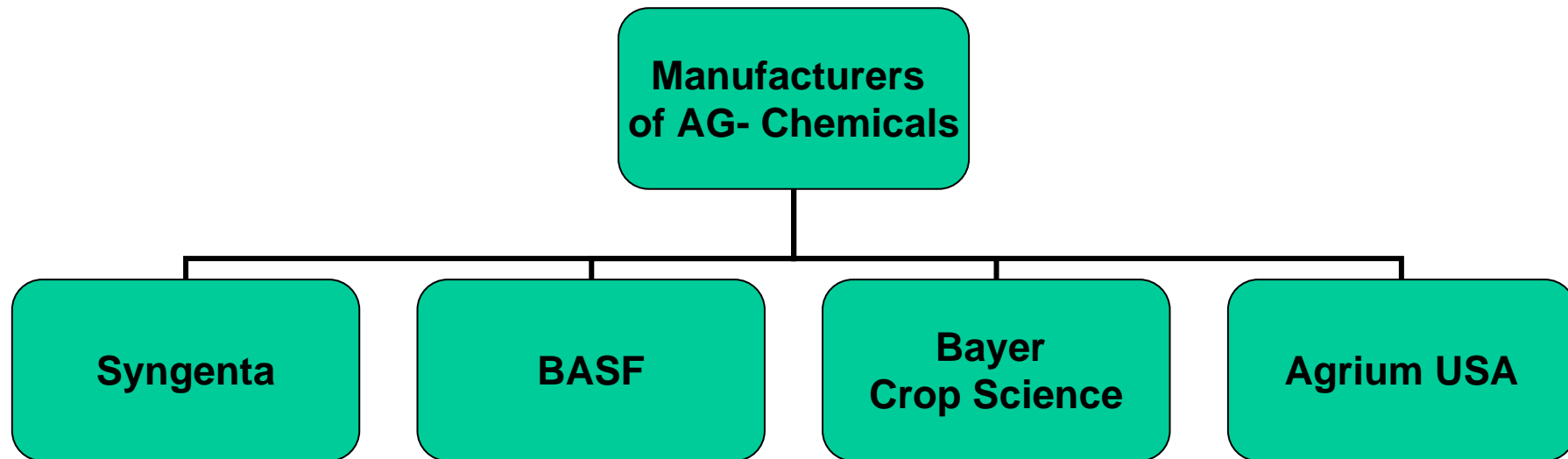
» References - the Who is Who of Adcon Users



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» References - the Who is Who of Adcon Users



» What do they have in common ?



- There is *SOMEONE* who knows about precision farming.
- There is *SOMEONE* with an background in agronomy.
- There is *SOMEONE* who recognizes the benefits of the technology.
- There are well-trained people to run the networks, analyze data and give advise
- These are early adopters, technologically savvy, trying to apply best practice
- These are people who act professionally!

» Why is that important ?



Because farmers are a very conservative kind of people.

Farmers are very hesitant to adopt new technology.

(„Grandpa didn't have it, Daddy didn't have it, why should I?“)

The average age of farmers in the EC is rather high.

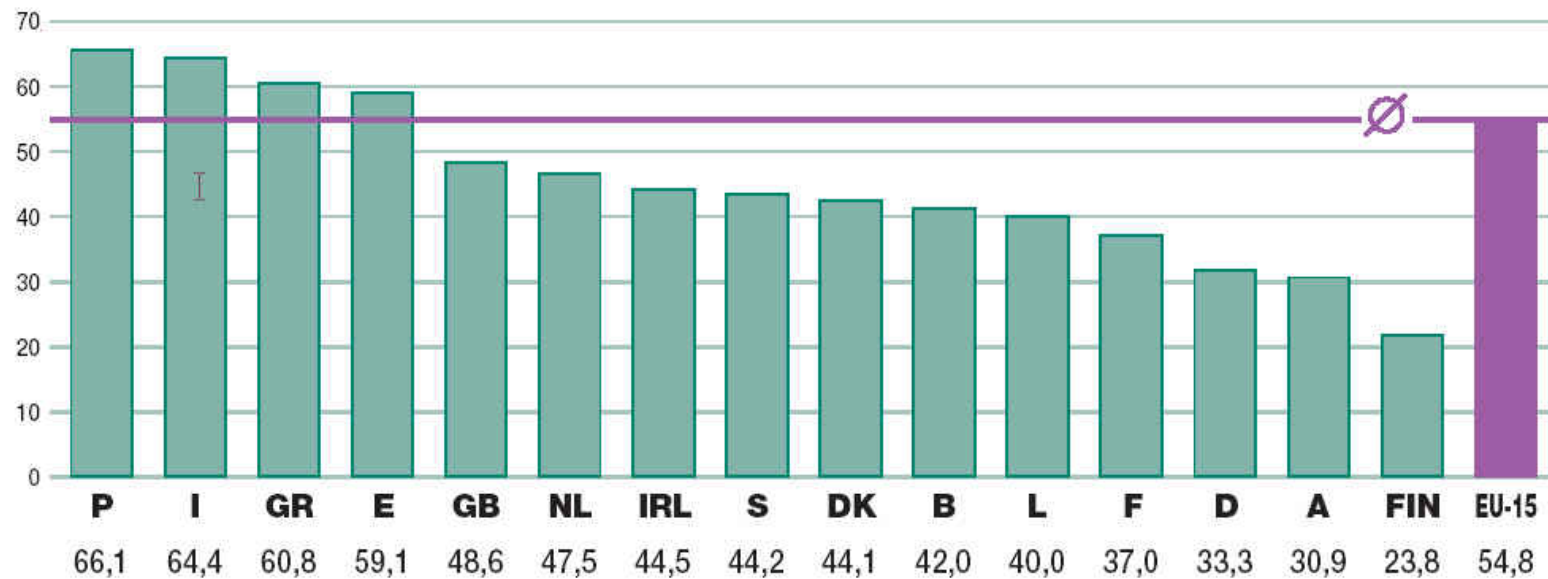
The average size per farm is very low.

The average income per farm is rather low.



Betriebsleiter im Alter von 55 Jahren und mehr in landwirtschaftlichen Betrieben in der EU – 1997

in Prozent



» Some EC-Statistics (latest published!)

Structure of Farming In EC Memberstates

Farms (1180.1)								
Member State	# of Farms		Acreage		Avg. Farmsize		% of Farms	
	1 000		1 000 ha LF		ha LF / Betrieb		< 5 ha	> 100 ha
	1995	1997	1995	1997	1995	1997	%	
							1997	
Belgium	71,0	67,2	1 354,4	1 382,7	19,1	20,6	32,2	1,7
Denmark	68,8	63,2	2 726,6	2 688,6	39,6	42,6	3,5	8,8
Germany	566,9	534,4	17 156,9	17 160,0	30,3	32,1	31,5	4,2
Greece	802,4	821,4	3 578,2	3 498,7	4,5	4,3	76,3	0,1
Spain	1 277,6	1 208,3	25 230,3	25 630,1	19,7	21,2	53,6	3,9
France	734,8	679,8	28 267,2	28 331,3	38,5	41,7	26,8	11,2
Ireland	153,4	147,8	4 324,5	4 342,4	28,2	29,4	7,5	2,8
Italy	2 482,1	2 315,2	14 685,5	14 833,1	5,9	6,4	75,7	0,6
Luxemburg	3,2	3,0	126,9	126,6	39,9	42,5	24,5	8,1
The Netherlands	113,2	107,9	1 998,9	2 010,5	17,7	18,6	32,0	1,0
Austria	221,8	210,1	3 425,1	3 415,1	15,4	16,3	37,9	1,3
Portugal	450,6	416,7	3 924,6	3 822,1	8,7	9,2	76,1	1,3
Finland	101,0	91,4	2 191,7	2 171,6	21,7	23,7	8,7	1,2
Sweden	88,8	89,6	3 059,7	3 109,1	34,4	34,7	14,3	6,7
UK	234,5	233,2	16 446,6	16 168,9	70,1	69,3	15,5	16,5
EU-15	7 370,0	6 989,1	128 497,3	128 690,8	17,4	18,4	55,8	3,2

Schools specialized in Farming and Forrestry

As of November 15, 2005

(2380.1)

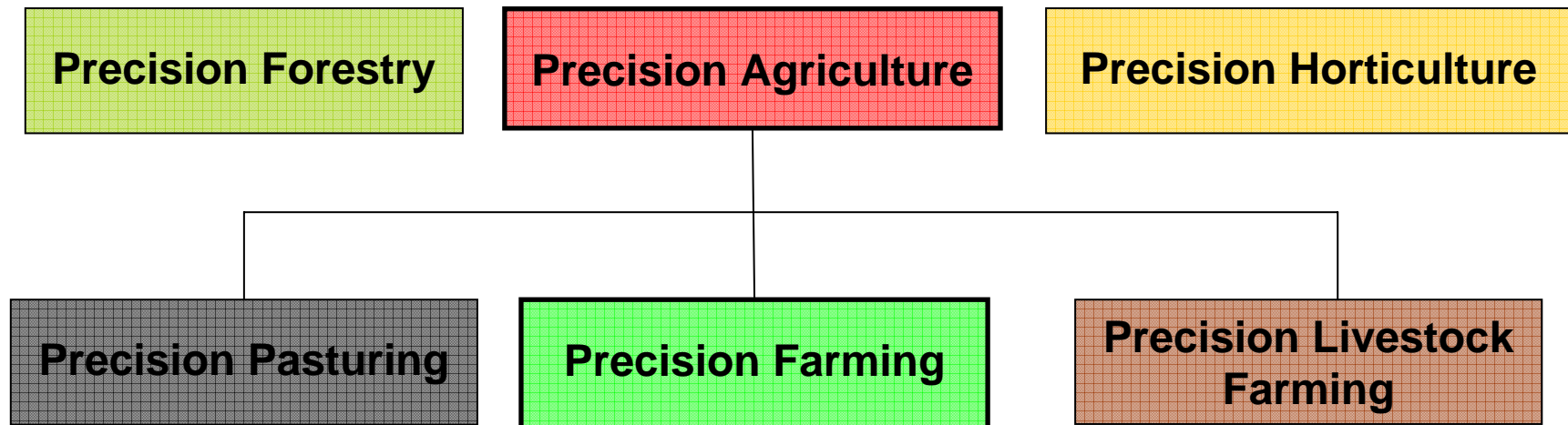
Topic	# of Schools	# of alumni	
		total (7.213)	female
Agriculture			
General Agriculture			
Yearlong, but winter only	18	362	33
Yearlong	33	717	58
3 semesters	53	1 551	104
Specialization in 2nd year	23	613	43
Biennial	13	719	130
Viticulture			
Viticultural schools	+		
Yearlong, but winter only	3	141	20
3 semesters	3	45	4
Viticultural Technology			
Yearlong	1	38	4
Biennial	2	86	9
Horticulture			
1 semester	3	61	12
Yearlong	17	511	89
Biennial	9	501	109
Forrestry			
Yearlong	0	0	0
Biennial	1	16	-
Dairy Farming			
Yearlong	2	25	3
Biennial	1	34	3
Husbandry			
Agriculture	64	1 334	1 334
yearlong, allyear round	1	5	5
3 semesters	4	71	71
Biennial	6	288	273
Academies	1	95	95

» Create A Common Terminology



Referring to New Technology in Agriculture inevitably leads to the terms

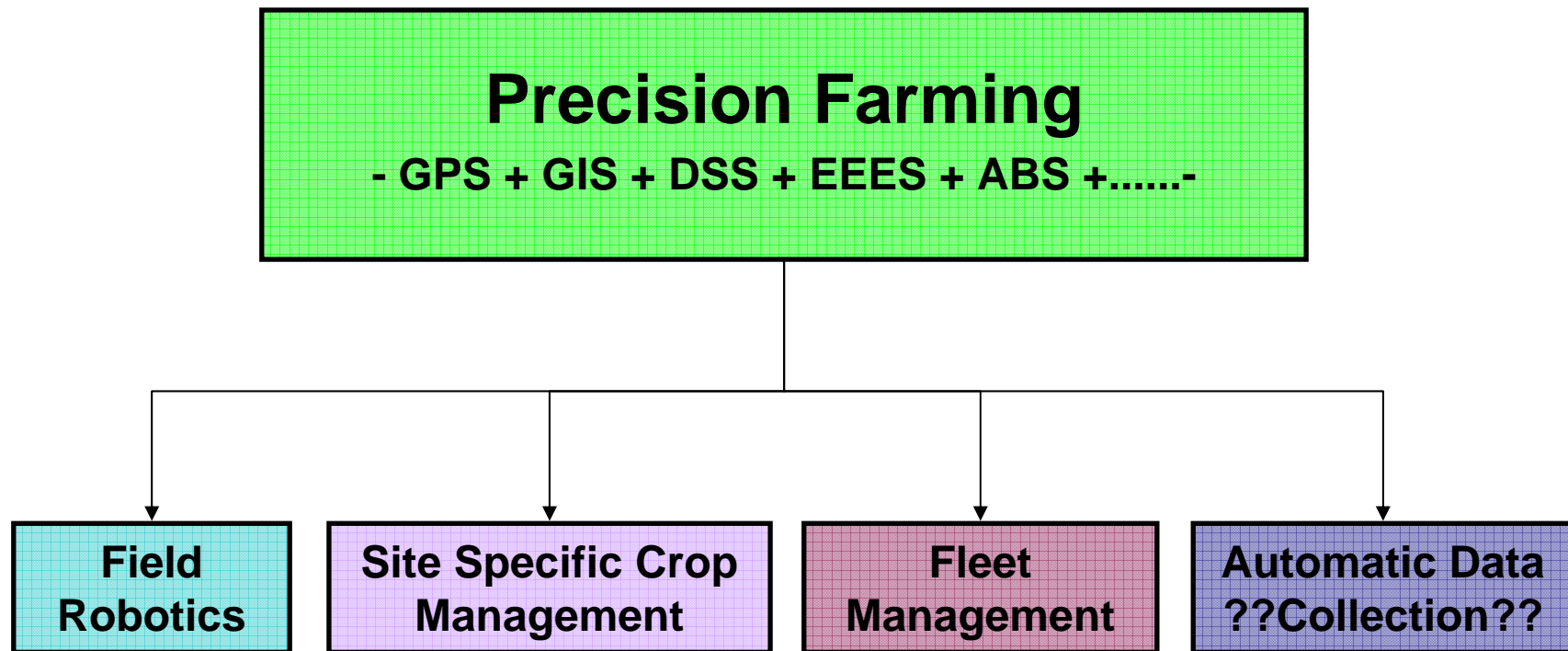
PRECISION AGRICULTURE or PRECISION FARMING



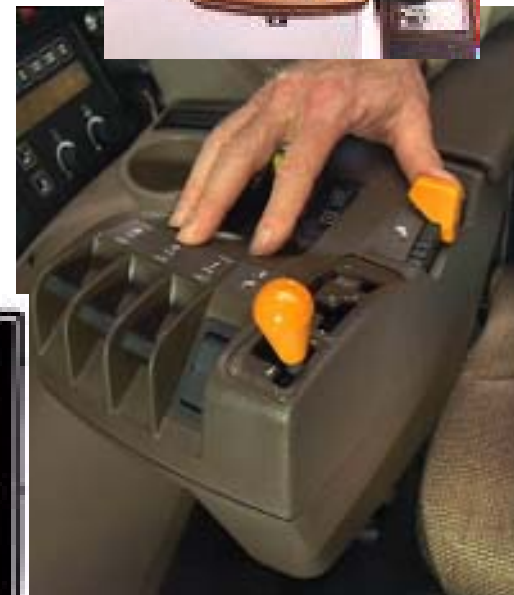
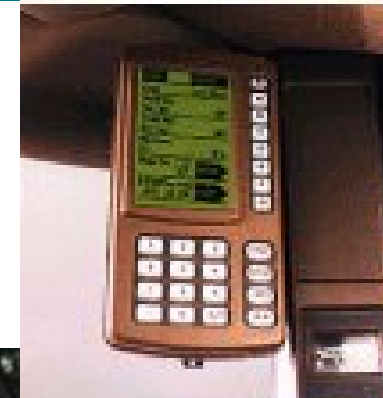
» Create A Common Terminology



Precision Farming has a lot of components:



» Precision Farming = Workplace Technology



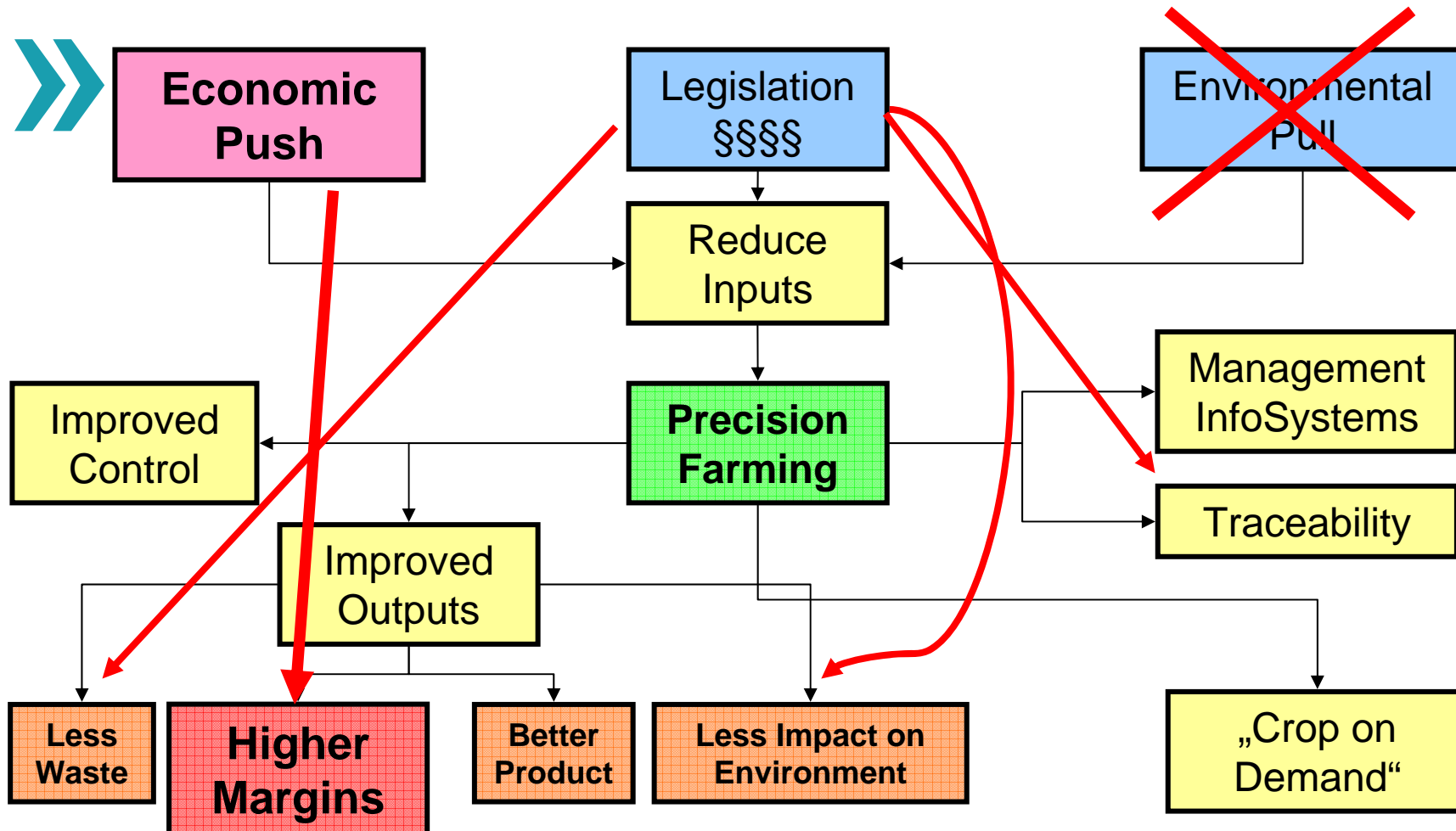
» Why this limitation?



Workplace technology is all about hardware.

- Look and touch.
- Immediate feedback, immediate results.
- Relatively easy to understand.
- Big tractor, big harvester - very prestigious!
- MORE BANG FOR THE BUCK!

» What drives Precision Farming ?



» “Unaccepted” Precision Farming



What does this refer to??

To All Technology Not Showing An Immediate Effect.

- **Weather Stations**
- **Soil Moisture Sensors**
- **Disease Models**
- **Decision Support Systems in general**
- **A Consultants Advise**

» Precision Farming Basics



What farmers tend to forget:

**WITHOUT PROPER FIELD DATA ALL THEIR
TECHNOLOGY IS A WASTE OF MONEY.**

Because they cannot answer the key question:

WHY ???

» Data is the base for decisions!



When to spray?

When to irrigate?

How much to irrigate?

When to harvest?

Where to fertilize?

How much to fertilize?

.....?

Without proper data it all becomes guess work.

» Data is the base for decisions!



And still: weather stations, soil sensors, plant sensors are ANYTHING but commonly accepted tools.

- Weather info can be heard on the news or be had for free from the National weather service.
- Spraying information can be found on the leaflet supplied with the pesticide/fungicide/...
- Irrigation Decisions are taken based on „experience and observation“ (even in Australia!)
- Connection between fertilizing and irrigating is badly understood

» Lack of Education, Infrastructure, Understanding,..



- Water is still too cheap.
- The real connection between disease development and weather is not understood, disease models not widely accepted,
- The irrigation concepts based on „active rootzones“, „partial root zone drying“ and other technologies is unknown,
- The negative effects of over-irrigation - increased salinity, nutrient washout, lack of oxygen, effects on micro-organisms, etc. - are unknown,
- Using Consultants is not common, because
 - there are no consultants (!),
 - they are too expensive,
 - it's against the farmers pride to use them,...
 - Consulting is f.o.c. from the AG-Chamber, an insurance company, etc.

» How to Communicate Data Equipment?



Translate investments into savings:

- Cost per Spray/ha - @ xx Sprays saved @ yy\$/ha = zzz \$ saved
- Cost per hour of pump operation - @ xx l fuel/hour @ yy hours saved = zzz \$ saved + less maintenance cost + longer lifetime of the equipment
- Cost of reduced fertilizer input due to improved accuracy - @ xx kg/ha @ yy applications saved = zzz \$ saved

» How to Communicate Data Equipment?



ADCON Sales people are **NOT** Sales people!

They are Preachermen.

Their Gospel is explaining to the Farmer how to

Make More Money.

