cropio

Estimated economic benefit per 1 hectare

Fuel expenses			
1. Fuel spent on monitoring and controlling the sown area *(about 300 ml of fuel is spent on inspecting approximately 1 ha of the sown area, on average 7 times per season)*		0,3	
2. Cost per liter	USD	1,5	
3. Minimal economic gain as a result of partial substitution of preventive full scale inspections for targeting individual abnormal areas	%	30%	
Possible economic benefit of field monitoring per 1 ha (1 * 2 * 3)	**USD**		**0,15**

Payroll economics			
1. Annual payroll and taxes of an agronomist responsible for field monitoring	USD	24 000	
2. Amount of time spent on monitoring of fields	%	15%	
3. Economics of field monitoring with the Cropio system (partial substitution of preventive full scale inspections for targeting individual abnormal areas)	%	30%	
4. Number of hectares serviced by one agronomist	ha	5 000	
Direct payroll economics (1 * 2 * 3 / 4)	**USD**		**0,22**
1. Annual payroll of the specialist, responsible for consolidation and processing information in addition to reporting	USD	6 000	
2. Number of hectares serviced by a single specialist	ha	5 000	
Economics of reporting and planning work (1 / 2)	**USD**		**1,2**

Fertilizer expenses			
1. Fertilizer expenses and distribution per 1 hectare	USD	60	
2. Fertilizers economics using VRA and Cropio	%	10%	
(according to the American Precision Agriculture Institute such economy amounts for 10% +)			
Fertilizers economics per 1 ha per year (1 * 2)	**USD**		**6,00**

Measurement and analysis expenses			
1. Cost of a single soil nitrogen test (selection + analysis)	USD	15	
2. Size of area inspected for a single test	ha	10	
3. Testing frequency: one test per n-years *(annual basis is a recommended regularity; at least - one test in three years)*	years	3	
Nitrogen testing economics per 1 ha per year (1 / 2 / 3)	**USD**		**0,50**
1. Cost of equipment and software for yield mapping	USD	20 000	
2. Expected lifetime of the equipment	years	7	
3. Amount of hectares serviced by one item of yield mapping equipment	ha	5 000	
Equipment expenses for 1 ha per year (1 / 2 / 3)	**USD**		**0,57**

Estimated economic benefit per 1 hectare

Fuel expenses			
1. Fuel spent on monitoring and controlling the sown area *(about 300 ml of fuel is spent on inspecting approximately 1 ha of the sown area, on average 7 times per season)*		0,3	
2. Cost per liter	USD	1,5	
3. Minimal economic gain as a result of partial substitution of preventive full scale inspections for targeting individual abnormal areas	%	30%	
Possible economic benefit of field monitoring per 1 ha (1 * 2 * 3)	**USD**		**0,15**

Payroll economics			
1. Annual payroll and taxes of an agronomist responsible for field monitoring	USD		
2. Amount of time spent on monitoring of fields	%		
3. Economics of field monitoring with the Cropio system (partial substitution of preventive full scale inspections for targeting individual abnormal areas)	%	30%	
4. Number of hectares serviced by one agronomist	ha		
Direct payroll economics (1 * 2 * 3 / 4)	**USD**		
1. Annual payroll of the specialist, responsible for consolidation and processing information in addition to reporting	USD		
2. Number of hectares serviced by a single specialist	ha		
Economics of reporting and planning work (1 / 2)	**USD**		

Fertilizer expenses			
1. Fertilizer expenses and distribution per 1 hectare	USD		
2. Fertilizers economics using VRA and Cropio	%		
(according to the American Precision Agriculture Institute such economy amounts for 10% +)			
Fertilizers economics per 1 ha per year (1 * 2)	**USD**		**0,00**

Measurement and analysis expenses			
1. Cost of a single soil nitrogen test (selection + analysis)	USD		
2. Size of area inspected for a single test	ha		
3. Testing frequency: one test per n-years *(annual basis is a recommended regularity; at least - one test in three years)*	years		
Nitrogen testing economics per 1 ha per year (1 / 2 / 3)	**USD**		
1. Cost of equipment and software for yield mapping	USD		
2. Expected lifetime of the equipment	years		
3. Amount of hectares serviced by one item of yield mapping equipment	ha		
Equipment expenses for 1 ha per year (1 / 2 / 3)	**USD**		

N-tester expenses		
1. Depreciation of N-tester per 1 ha per year (USD 3 000 / 5 years / 5000 hectares) *(based on the 5 year expected lifetime of one tester used on 5 thousand hectares)*	USD	0,12
2. Payroll of the specialist working with N-tester per 1 ha *(2 months per year, USD 250 per month - based on the test for the second and third soil fertilization)*	USD	0,10
N-tester economics (1+2)	**USD**	**0,22**

Losses due to inaccurate weather forecasting		
1. Average cost of fertilizer and protective crop substances per hectare	USD	75
2. Possible % of losses due to inaccurate weather forecasting *(according to the survey the figure is in between 5% and 15%)*	%	2,5%
Reduction of losses through precise weather forecasting	**USD**	**1,88**

Insurance expenses		
1. Insurance expenses for 1 hectare (not compensated by the government)	USD	2,8
2. Possible % of economic benefit due to the high credibility of client profile (as a result of data submitted on historical field performance and real time crop conditions during the insurance-application process).	%	5%
Insurance economics (1 * 2)	**USD**	**0,14**

Collateral control expenses		
1. Size of the loan per 1 hectare secured by the future harvest *(usually, future harvest value discounted)*	USD	280
2. Possible decrease of the loan interest rate due to decrease of banking cost for collateral observation and control	%	0,1%
3. Loan duration *(usually 9 month - period from sowing to realization of harvested produce)*	month	9
Economics of the loan interest rate (1 * 2 * (3/12))	**USD**	**0,21**

Increase of the yield in problem zones		
1. Average % of abnormal vegetation zones in the total field structure *(insufficient amount of seeding material, improper application rate of fertilizers and/or crop protection substances, suboptimal allocation of fertilizers and seeding material throughout the field, other technological errors)*	%	5%
2. % of losses in problem field zones	%	30%
3. Average yield for crops growing in problem field zones	t/ha	4
4. Price for one tonne of crop harvested from the problem field zone	USD/t	140
Increase of the yield due to timely identification and management of problem zones (1*2*3*4)	**USD**	**8,40**

Increase of the average yield due to VRA		
1. Average harvest value from 1 hectare (for example, winter wheat)	USD/ha	560
2. % increase in yield through the balanced and differentiated seeding and soil fertilization in accordance with individual vegetation structure	%	1%
Minimum yield increase (1*2)	**USD**	**5,60**

Cost efficiency		
Up-to-date information	USD/ha	
Reliable information	USD/ha	
Timely information	USD/ha	
Additional profits resulting from greater efficiency	**USD**	

N-tester expenses		
1. Depreciation of N-tester per 1 ha per year (USD 3 000 / 5 years / 5000 hectares) *(based on the 5 year expected lifetime of one tester used on 5 thousand hectares)*	USD	
2. Payroll of the specialist working with N-tester per 1 ha *(2 months per year, USD 250 per month - based on the test for the second and third soil fertilization)*	USD	
N-tester economics (1+2)	**USD**	**0,00**

Losses due to inaccurate weather forecasting		
1. Average cost of fertilizer and protective crop substances per hectare	USD	
2. Possible % of losses due to inaccurate weather forecasting *(according to the survey the figure is in between 5% and 15%)*	%	
Reduction of losses through precise weather forecasting	**USD**	**0,00**

Insurance expenses		
1. Insurance expenses for 1 hectare (not compensated by the government)	USD	
2. Possible % of economic benefit due to the high credibility of client profile (as a result of data submitted on historical field performance and real time crop conditions during the insurance-application process).	%	
Insurance economics (1 * 2)	**USD**	**0,00**

Collateral control expenses		
1. Size of the loan per 1 hectare secured by the future harvest *(usually, future harvest value discounted)*	USD	
2. Possible decrease of the loan interest rate due to decrease of banking cost for collateral observation and control	%	
3. Loan duration *(usually 9 month - period from sowing to realization of harvested produce)*	month	
Economics of the loan interest rate (1 * 2 * (3/12))	**USD**	**0,00**

Increase of the yield in problem zones		
1. Average % of abnormal vegetation zones in the total field structure *(insufficient amount of seeding material, improper application rate of fertilizers and/or crop protection substances, suboptimal allocation of fertilizers and seeding material throughout the field, other technological errors)*	%	
2. % of losses in problem field zones	%	
3. Average yield for crops growing in problem field zones	t/ha	
4. Price for one tonne of crop harvested from the problem field zone	USD/t	
Increase of the yield due to timely identification and management of problem zones (1*2*3*4)	**USD**	**0,00**

Increase of the average yield due to VRA		
1. Average harvest value from 1 hectare (for example, winter wheat)	USD/ha	
2. % increase in yield through the balanced and differentiated seeding and soil fertilization in accordance with individual vegetation structure	%	
Minimum yield increase (1*2)	**USD**	**0,00**

Cost efficiency		
Up-to-date information	USD/ha	
Reliable information	USD/ha	
Timely information	USD/ha	
Additional profits resulting from greater efficiency	**USD**	